

ANNOTATED BIBLIOGRAPHY ON RURAL
OFF-FARM EMPLOYMENT: VOLUME II

by

Richard L. Meyer
and
Harpal S. Grewal

May 1983

Agricultural Finance Program
Department of Agricultural Economics
and Rural Sociology
The Ohio State University
2120 Fyffe Road
Columbus, Ohio 43210

Financial support for the work conducted on this
bibliography was received from The Ohio State University
and the Office of Multi-Sectoral Development, Agency for
International Development.

PREFACE

With the advent of the "New Household Economics" a decade ago, increasing attention has been devoted to the study of the time allocation behavior of members of rural households both in developed and developing countries. A large amount of this research has focused on the issues of extent and nature of occupational diversities in rural areas, the importance of off-farm and non-farm activities in the economic life of rural households, and the determinants of time allocation behavior of rural people. A number of studies have also been conducted on rural labor markets, and the sex differentials in labor force participation and wage rates. Similarly, off-farm employment policies and programs in low-income countries have been evaluated by researchers. The findings and recommendations of these studies have provided useful insights for designing rural development programs and policies.

This is the second volume of an annotated bibliography on rural off-farm employment research concerning the above issues. The first volume was prepared by Richard L. Meyer and Adelaida Alicbusan and contains abstracts of 175 studies available at the time of publication in October 1979. This volume emphasizes publications available since that date. Harpal Grewal prepared most of the abstracts included in this volume. Most of the studies included in these two volumes were mainly conducted during the last decade. The emphasis is on research done about developing countries, however, a number of studies on developed countries and of general methodological and theoretical interest are also included. We recognize that some important research has undoubtedly been overlooked in this review and will appreciate having these items brought to our attention.

We acknowledge with great appreciation the assistance of Ms. Barbara Lee and Ms. Phyllis Seidel for their careful typing, and Ms. Jill Loar for her careful preparation of the final volume on the word processor.

Richard L. Meyer
Harpal S. Grewal

T A B L E O F C O N T E N T S

| | Page |
|-------------------------------|-------|
| PREFACE | i |
| ABSTRACTS | 1-76 |
| AUTHOR AND ORGANIZATION INDEX | 77-81 |
| GEOGRAPHIC INDEX | 82-83 |

1. Akrasanee, Narongchai, "Government Policies, Rural Industrialization and Employment," Working paper No. 31, Center for Applied Economics Research, Kasetsart University, Bangkok, Thailand, June 1981. File No. 629

The author discusses and proposes a strategy for employment oriented rural industrialization in Thailand. The paper is divided into four parts. Part I presents the existing stage of regional and rural industrialization in Thailand. Part II analyzes government industrial development policies. The relationship between rural industrialization and government policies is discussed in Part III with implications for off-farm employment. Part IV discusses and proposes a strategy for rural industrialization which is employment oriented.

2. Amyot, Jacques, Village Ayutthaya: Social and Economic conditions of a Rural Population in Central Thailand, Social Science Research Institute, Chulalongkorn University, Bangkok, Thailand, 1976. File No. 648

This book deals with various aspects of economic and social life of rural residents in Ayutthaya province in Thailand. In chapter 8, non-farm and off-farm enterprises of farm households are discussed. Labor utilization data for 24 sample farm households are analyzed in Chapter 11, and data on their family income, its sources, and expenditures are analyzed in chapter 10.

The author finds that Thai villagers were engaged in a variety of non-farm and off-farm enterprises. The proportion of non-farm income in total household income ranged from 15 to over 65 percent in the three villages studied. The percentage of total working hours spent on off-farm work in these villages varied between 14 and 25 percent.

3. Anderson, Dennis and Farida Khambata, "Small Enterprises and Development Policy in the Philippines: A Case Study," World Bank Staff Working Paper No. 468, The World Bank, Washington, D.C., July 1981.
File No. 647

This study presents an ex post evaluation of the Small and Medium Industries Programs introduced in the Philippines in 1974, and analyses the assumptions behind the programs. It also examines the role of small industries in the development process, and how that role is affected by the structure of industrial tariffs, investment incentives and by policies toward agriculture.

The study presents first-hand experience on risks and administrative costs of lending and shows how risks have led to capital market failures in the past. The authors argue for a relaxation of administrative constraints on the structure of interest rates and initiation of risk-guarantee and extension schemes.

4. Anderson, Dennis, and Mark W. Leiserson, "Rural Non-Farm Employment in Developing Countries," Economic Development and Cultural Change, Vol. 28, No. 2, January 1980.
File No. 566

In part II of this article, the authors assess the magnitude and growth of rural non-farm employment in developing countries. The role of rural non-farm activities in the development process is examined in part III. Part IV presents major conclusions.

The study suggests that non-farm activities in rural areas are a primary source of employment and earnings for about one-fourth of the rural labor force in most developing countries. Non-farm employment also provides a significant source of secondary earnings in slack seasons for small and landless farmers. Historically, the share of rural labor force engaged in non-farm work has increased over time.

The authors suggest that the design of rural development policies, in addition to providing the support necessary to raise agricultural productivity, should also be addressed to the needs of local non-farm activities.

5. Aramrattana, Orasa, "Distribution of Farm and Non-farm Enterprises in Rural Households", Working paper No. 17, Center for Applied Economics Research, Kasetsart University, Bangkok, Thailand, June 1982.
File No. 628

Farm households in Thailand usually engage in many farm and non-farm enterprises. This study analyzes the major farm and non-farm activities performed in the rural sector. The farm enterprises are divided into 10 categories and non-farm enterprises into 16 categories. The study covers four provinces: Chiang Mai in the North, Khon Kaen and Roi-Et in the Northeast, and Suphan Buri in the Central region. There were significant seasonal and regional variations found in the patterns of enterprise distribution in the study areas.

6. Asian Development Bank, Rural Asia, Challenge and Opportunity, Praeger Publishers, 200 Park Avenue, New York, N.Y. 10017, 1978.
File No. 573

Chapter seven of this book discusses rural off-farm employment in Asia. The major issues discussed are labor intensiveness of rural works; scope and scale, technology, organization and management of rural based projects; and execution of programs. The major considerations in project design and finances for these programs are illustrated.

The second part of the chapter discusses rural based industries. The topics covered are salient features of the rural industries, technology and efficiency, finances, industrial extension, and policy and planning.

7. Aungsumalin, Saroj, "The Generalized Linear Programming Model to Estimate Seasonal Credit Needs of Non-Farm Firms," Research Paper No. 9, Center for Applied Economics Research, Kasetsart University, Bangkok, Thailand, August 1982.
File No. 588

This paper presents a linear programming model to estimate credit needs of non-farm firms. The major

characteristics of the model are: (a) multi-period, (b) separate production and marketing activities, (c) cash and credit transactions for input purchases and product sales, (d) inventory levels by product, (e) seasonal cash flow reflecting sales, borrowing, accounts receivable, purchases, etc., (f) an objective function to maximize net return to fixed assets, family labor and equity capital.

The model does not answer the following questions: To what extent is labor a constraint in small industries? What is the optimum level of inventory of raw material and finished product the firm has to maintain throughout the year? What is the optimum technology for firms of different sizes? What is the optimum size and expansion path for a firm?

The paper does not discuss any empirical use of the model.

8. Aungsumalin, S. and W. H. Vincent, "Seasonal Credit Needs of Cement Product Firms in Rural Thailand," Research Paper No. 10, Center for Applied Economics Research, Kasetsart University, Bangkok, Thailand, August 1982.
File No. 589

This study attempts to estimate short-term credit needs of rural small-scale cement product industries in Thailand. A multi-period linear programming model is used for this purpose. In addition to net returns, borrowings, savings, lending, and productivity of loans for the firms are also examined.

The study concludes that commercial banks or other financial institutions should not fix maximum borrowing limits for the firms. The access to credit facilities should be flexible according to the actual needs of entrepreneurs. The authors also suggest some issues for future research on small-scale industries.

9. Avila, Marcelino, "Improving the Small Farm Production Systems in Central America," paper presented at the 18th International Conference of the Agricultural Economists, Jakarta, Indonesia, August 24-September 2, 1982.
File No. 661

The purpose of this study is to provide selected results of applied research being implemented by the Tropical Agricultural Research and Training Center to develop and test improved crop and animal production systems for low-income farmers in specific areas representing typical ecological zones of Central America.

The results of the study reveal that technologies can be developed that improve income and employment opportunities for economically weak farmers. The small farmers do respond to technological opportunities, though the sector is not favored by price policies. The author encourages more attention on developing and integrating research and extension programs.

10. Ayuthaya, Abha Sirovongs Na, Fredrich W. Fuhs and Suthep Soonthornpasuch, Village Chiang Mai: Social and Economic Conditions of Rural Populations in Northern Thailand, Social Science Research Institute, Chulalongkorn University, Bangkok, Thailand, 1979. File No. 649

This book presents an analysis of various aspects of economic and social life of villagers in Chiang Mai province in Thailand. Non-farm and off-farm enterprises in rural areas are discussed in Chapter 8. Labor utilization for 29 farm households is analyzed in Chapter 10, and data on farm household family income, its sources and expenditure are presented in chapter 11.

Off-farm and non-farm economic activities of the households varied widely in the studied villages. On the average, the villagers spent about 21 percent of their working time on off-farm and non-farm activities. Similarly, non-farm income ranged from 18 to 37 percent of average income of the households in the three villages studied.

11. Badr, M., N. E. Sheikh, J. Seale, S. Davies, A. Mostafa, and A. Saidi, "Small Scale Enterprises in Egypt: Fayoum and Kalyubiya Governorates, Phase I Survey Results," Working paper No. 23, Department of Ag. Economics, Michigan State University, East Lansing, Michigan, 1982. File No. 562

This study used data collected under a survey of rural non-farm employment in Fayoum and Kalyubiya governorates in Egypt. This survey was designed to fill data gaps in previous surveys on rural non-farm enterprises.

The results show a large number of small-scale enterprises widely distributed throughout the studied areas. These non-farm enterprises are generally very small with the average firm engaging fewer than two people. It was also found that, even including the dairy industries, females own and operate about half of the small scale enterprises and comprise 30 percent of the sector's labor force.

12. Bagchi, Deipica, "Female Roles in Agricultural Modernization: An Indian Case Study," Working paper No. 10, Southern Illinois University, Edwardsville, Illinois, USA, July 1982.
File No. 559

The United Nations declaration of the decade of the seventies as International Women's Year focused attention on integrating women in economic development. The author argues that awareness of the adverse effects of economic development on female populations require comparative studies of female participation patterns in rural economies under varying regional-cultural frameworks. This study is based on extensive field work conducted in three different crop regions along the culturally varying border areas of Madhya Pradesh, India. The study reveals: (1) a high degree of female participation in agricultural production and decision making, (2) a gradual elimination of female roles in the wake of mechanization, and finally, (3) indifference in governmental services and prospective plans for integrating female roles in the developmental effort.

13. Barkat-E-Khuda, "Estimation of Potential Supply of Laborers in a Rural Agrarian Economy," The Bangladesh Development Studies, Vol. VII, No. 1, Winter 1979.
File No. 606

The author argues that the measurement of rural underemployment is arbitrary in the majority of earlier

studies. He attempts to make more realistic estimates of labor supply by using actual number of hours people work in rural areas.

The study used data collected from 34 households in Barkait village in Comilla. Fourteen hours per day was used as the potential available time for directly productive activities. The study shows that, after deductions are made for non-earning activities, the hours potentially available for directly productive activities are significantly less than estimated in past studies.

14. Barkat-E-Khuda, "Division of Laborers in Rural Bangladesh", The Bangladesh Development Studies, Vol. VIII, No. 4, August 1980.
File No. 625

The objective of this study is to analyze the various types of duties performed by different family members and the determinants of division of labor. The study is based on time-budget data collected daily over seven months in 1976 for each person aged five years and above in a sample of thirty four households in Barkait village in Comilla.

The author concludes that the division of labor between males and females was mainly determined by the cultural background of the families. The type of activities carried out also depends on age. Male family members worked more in directly productive activities, while female members were mainly engaged in activities inside the house.

15. Bawden, D. Lee and William S. Harrar, "Purpose and Design of the Rural Income Maintenance Experiment," American Journal of Agricultural Economics, Vol. 59, No. 5, December 1977.
File No. 563

The authors discuss the purpose and design of the Negative Income Tax Program in the U.S. The program originated in the mid-1960s. The previous public assistance programs in the country were regarded as illogically conceived, poorly administered and inequitably applied. The objective of this experiment was

to generate information about the effects of various negative tax plans on behavioral and attitudinal characteristics of rural households. The study also presents a description of the experiment.

16. Benito, Carlos A., "Peasant's Response to Modernization Projects in Minifundia Economies," American Journal of Agricultural Economics, Vol. 58, No. 2, May 1976.
File No. 531

Different factors are identified in explaining peasant's adoption of modern technologies. A model of the peasant household is developed by integrating most of these factors, condensed into a stochastic linear programming framework, and applied to the Pueblo area in Mexico. Observed low adoption rates and peasant's participation in the modernization projects are explained by opportunity costs of time and uncertainty. The view that labor-using technologies will rapidly increase agricultural production is challenged. The generation of less risky technologies and more emphasis on organizational communication aspects are suggested as necessary. Further, rural development will require intermediate technologies and organization.

17. Benjamin, Malcolm, "Handicrafts (2): A Case of Promotion," Development Digest, Vol. 20, No. 2, April 1982.
File No. 611

The author discusses the wood-carving industry in rural Kenya and the measures taken by the Kenya External Authority to promote its sales. He finds that this handcraft industry generates a large amount of hard currency for the economy through exports and tourist purchases.

The Kenya External Trade Authority provides assistance to the wood carving industry in the form of consultancies to set prices, ordering, positioning, choosing target markets and market entry, in-store promotions, selecting stores, and publicity material.

In 1980, the Akamba Wood-Carving Cooperatives conducted sales promotions in the U.S. resulting in a considerable increase in exports of handicrafts to the U.S.

18. Berry, R. Albert, "Wage, Employment, Dualism, and Labor Utilization in Colombia: Trends Over Time," The Journal of Developing Areas, Vol., 9, July 1975.
File No. 580

This study looks into the trends of labor market dualism in Colombia over time. While available evidence indicates that Colombia's economy is highly dualistic, the author finds that labor markets are more and more integrating over time. The overall wage employment ratio has shown an upward trend over the last 20 or 30 years.

An increasing share of workers is found in larger establishments, and average wages have risen markedly in the smaller establishments, both suggestive of decreasing dualism.

19. Berry, A., and R. H. Sabot, "Labor Market Performance in Developing Countries: A Survey", World Development, Vol. 6, No. 11/12, November/December 1978.
File No. 364

Malfunctioning of labor markets is often given as a principal explanation of the widespread poverty in developing countries. Open urban unemployment and disguised unemployment in agriculture are generally considered symptoms of the poor performance of the decentralized system of allocation of labor, time and skills. This study evaluates the performance of labor markets in some developing countries. The results revealed that labor markets performed quite efficiently although some imperfections existed. A closer look at open unemployment, disguised unemployment and other types of labor market malfunctions also suggested that there might be less serious misallocations. The authors argue that there is no reason to presume that poverty is a manifestation of labor market failure.

20. Bertrand, T., and L. Squire, "The Relevance of the Dual Economy Model: A Case Study of Thailand," Studies in Employment and Rural Development No. 60, Department of Development Economics, The World Bank, Washington, D.C., April 1980.
File No. 389

This study empirically tests the concept of labor market dualism as used in economic development models. The study is conducted using Thailand data. The results suggest that dualism is not an important factor in Thai labor markets. Factors such as seasonality in agricultural activities, changing prospects for crops that are regionally specialized, uncertainty in production due to weather, changes in labor demands in areas affected by infrastructure investments, and structural changes in the Thai economy have substantially and continuously contributed to adjustments in labor markets. Labor markets are also found to be reasonably efficient and well integrated with little evidence of serious or prolonged unemployment, under-employment, or misallocation of resources.

21. Bhatt, V. V., "Financial Institutions and Technical Consultancy Services: The Indian Experiment in Small Enterprise Promotion," unpublished paper, Economic Development Institute, The World Bank, Washington, D.C., August 1981.
File No. 646

The objective of this paper is to study and evaluate the actual performance of the Technical Consultancy Organization in India. This organization was set up as an autonomous corporate unit by the financial institutions under the leadership of Industrial Development Bank of India. By the end of 1980, thirteen such Technical Consultancy Organizations were established in backward states in the country.

The problems faced by financial institutions in India and the strategy they evolved are discussed in section I. The activities of and operations of eight consultancy units are analyzed in section II. The response of enterprises assisted by the Technical Consultancy Organization services and their comparative performance are indicated in section III. Suggestions are made in section IV to improve the effectiveness and efficiency of the consultancy network. The relevance of the Indian experiment for other less developed countries is discussed in the final section.

22. Boomgard, James and Merle Menegay, "A Market-Systems Approach to Research on Small-Scale Industries," Working Paper No. 23, Center for Applied Economics Research, Kasetsart University, Bangkok, Thailand, 1980.
File No. 627

This paper outlines a conceptual and practical approach for conducting research on the nature of interactions of rural small-scale firms with their external environment. The first section briefly explains the main elements of the conceptual framework, i.e. marketing systems and subsector methodology. The second section presents the research strategy from a time series and cross-sectional perspective. Included are descriptions of objectives, data collection methods, types of data sought, and preliminary findings. Suggestions for future research are made in the final section.

23. Bruch, Mathias, "Financial Sources of Small-Scale Manufacturers: A Micro-Analysis for Malaysia", unpublished paper, Kiel Institute of World Economics, D-2300, Kiel, West Germany, October 1982.
File No. 645

This study discusses financial problems of small-scale industries in Malaysia. The relative importance of different financial sources for investment and working capital are examined in Section 1 of the paper. Section 2 is a theoretical discussion of transaction costs and other factors influencing financial sources for small enterprises. A discriminant analysis of institutional lending is presented in section 3 and concluding remarks are presented in Section 4.

The results reveal that the credit rationing problems of small-scale firms are not as serious as usually assumed in the literature. Although the rate of participation in formal credit markets increases with size of establishment, the discriminant analysis showed that size as an explanatory factor was only of minor importance compared to other characteristics of the establishment and the entrepreneur.

24. Bruton, Henry J., "Unemployment Problems and Policies in Less Developed Countries," The American Economic Review, Vol. 68, No. 2, May 1978.
File No. 555

The author argues that the conventional classification of an entire population as employed and unemployed, or outside the labor force, raises many questions in any society. In developing countries, the issues raised by such classification are even more numerous and are of greater relevance for policy. A number of arbitrary assumptions are used to define and measure employment and unemployment. Such assumptions cause a loss of some valuable information in labor supply surveys. The author discusses the sources of the difficulties of using conventional definitions and classifications. He also suggests that the emphasis in data collection in developing countries should be on questions such as how the adult members of the household spend their time, how and to what extent the activities performed by household members are rewarded, and the availability from government and non-government sources of money and income in kind.

25. Bryant, W. Keith, "Household Capital Labor Ratios in Poor Farm Families," American Journal of Agricultural Economics, Vol. 58, No. 5, December 1976 (Proceeding Issue).
File No. 128

The major objective of this study is to analyze changes in capital-labor ratio of farm families in response to changes in variables such as price of family member's time, family income, family size, and some characteristics of the farm enterprise. Two models of the farm family were outlined. One allowed family members to work both on and off the farm, and the other provided for on-farm work only. The empirical analysis was made by using data of poor farm families collected from the Rural Income Maintenance Experiment in three counties in Iowa and North Carolina.

The results of the study revealed that household activities of low income families experienced capital intensification relative to the wife's time as family

income increased. Household activities also underwent capital intensification as value of wife's time increased. The role of farm production inputs in determining capital-labor ratios of households was, however, found as inconclusive.

26. Burfisher, Mary E. and Nadine R. Horenstein, "Incorporating Women Into Agricultural Development Planning: A Methodology," paper presented at the 18th Conference of the International Association of Agricultural Economists, Jakarta, Indonesia, August 24-September 2, 1982.
File No. 665

The purpose of this paper is to provide a methodology that incorporates gender differences in the farm household into development project planning. The paper provides a quantitative comparison between the projected impacts of a development project using a conventional planning methodology based on the aggregated farm household, and the proposed methodology in which project impacts are disaggregated by sex.

The analysis concludes that sex role differences may result in different responses to production-increasing technologies because of the different constraints and incentives of each sex. The sex role differences may cause development projects to have unintended effects or to face constraints not anticipated by conventional project analysis based on the total farm.

27. Burfisher, M. E. and N. R. Horenstein, "Sex Roles in the Nigerian Tiv Farm Household and The Differential Impacts of Development Projects," unpublished IED Staff Report, International Economics Division, U.S. Department of Agriculture, Washington, D.C., October 1982.
File No. 521

This paper provides a planning methodology for development projects that incorporates sex role differences in the farm household. It focuses on the Tiv people of Central Nigeria. The paper provides a quantitative comparison between the projected impacts

of a development project using a conventional planning methodology based upon the aggregated farm household and the proposed methodology in which project impacts are disaggregated by sex. It finds that a consideration of sex role differences helps to identify obstacles and flexibilities that are not anticipated by conventional analysis but which can influence farmer's decisions to adopt new technologies.

28. Carr, Marilyn, "Appropriate Technology for Rural African Women," Development Digest, Vol. 20, No. 1, January 1982.
File No. 609


The rural women in Africa do a variety of on and off-farm tasks. Their jobs could be made more productive and easier through the adoption of intermediate technology. This article discusses some promising technological possibilities, drawbacks, and problems of adoption.

The author suggests that provision of water, light transport facilities, efficient agricultural tools, and grinding mills and other crop processing equipment can significantly improve the work life of rural women.

29. Chalamwong, Yongyuth, "Development of Cottage Industries, Female Labor Force Participation, and Human Fertility in Rural Thailand," Research Paper No. 11, Center for Applied Economics Research, Kasetsart University, Bangkok, Thailand, August 1982.
File No. 592

The abstract of this study is translated in English. The paper, however, is written in Thai language.

The purpose of the study is to examine the potential impact of development of cottage industries on human fertility through female labor force participation in rural areas of Thailand. The study uses a framework that includes consideration of the inter-relationship of female labor force participation with human fertility.

The author finds the relationship between female labor force participation measures such as total hours worked in all activities and total hours worked in non-farm activity and fertility, as ""-shaped curves in all cases. However, the number of years engaged in cottage industries by the women did not show any clear relationship with their fertility.

30. Chalamwong, Yongyuth, "Rural Household Labor Supply for Off-Farm Work in Thailand, Research Paper No. 16, Center for Applied Economics Research, Kasetsart University, Bangkok, Thailand, August 1982. File No. 595

This study examines the factors affecting the farmer's decision to work in the off-farm labor market. An econometric model representing a farm household is used for empirical analysis. Many functional forms were tried, but the logarithmic form was found to give a better goodness of fit.

The author finds that own off-farm wage rates, wife's off-farm wage rates, non-farm earnings, unearned income, farm size, assets, and multiple cropping index significantly determined male off-farm business involvements. In the case of females, their off-farm labor supply was related to own off-farm wage rates, farm earnings, unearned income, farm size, multiple cropping index, number of adults, education and number of dependents aged 7-11 years.

31. Chalamwong, Y., and R. L. Meyer, "A Review of Econometric Studies of the Supply of Rural Household Labor to Off-Farm and Non-Farm Activities in Thailand," unpublished paper, Department of Agricultural Economics and Rural Sociology, The Ohio State University, Columbus, Ohio, August 1982. File No. 651

This study summarizes the recent research on rural labor markets and time allocation behavior of farm households in Thailand. The first section provides an overview of previous econometric work relative to labor supply in Thailand. The second section summarizes the econometric studies of labor supply which utilized the

data collected by the Rural Off-Farm Employment Assessment Project. Some general implications and recommendations are presented at the end of the paper.

32. Chalamwong, Y., and R. L. Meyer, "Farm Household Income Levels, Sources, and Patterns in Selected Thai Villages," Research Paper No. 14, Center for Applied Economics Research, Kasetsart University, Bangkok, Thailand, August 1982.
File No. 591

This paper analyzes the levels, sources and patterns of rural household income in 25 villages in Thailand. The results of the study show that Thai villages are extremely complex and heterogeneous with respect to the level, sources and patterns of income received by farm households. For all 25 villages in the sample, eleven derived the largest share of household income from farm enterprises, six from non-farm enterprises, six from wages and two from other sources. The authors argue that this heterogeneity complicates the task of policy formulation for programs to better the rural poor.

33. Chambers, Robert, Richard Longhurst, David Bradley, and Richard Feachem, "Seasonal Dimensions to Rural Poverty: Analysis and Practical Implications," Paper No. D.P.-142, Institute of Development Studies, University of Sussex, England, July 1978.
File No. 644

This paper is based on a conference on seasonal dimensions of rural poverty held at the Institute of Development Studies at the University of Sussex in 1978. It examines seasonal factors which are adverse for rural people, especially in tropical countries.

The authors find a common scenario in agricultural communities in which the worst time of the year is the wet season. During this season, there are food shortages, high food prices, high demand for agricultural work and high exposure to diseases. These factors combine to make the wet season a time of stress and crisis for all, but especially for women, children and the poorer families. It is the time when many poor people become poorer.

34. Chanthongkaew, S., "Hand Tools Industry in Roi-Et and Chiang Mai," Research Paper No. 12, Center for Applied Economics Research, Kasetsart University, Bangkok, Thailand, August 1982.
File No. 590

The author examines the impacts of changes in technology and production process in rural hand-tool firms on employment and income of people in the industry. The methodology used is a descriptive analysis. The data were collected from villages in the Roi-Et, Chiang Mai, and Ayuthaya Provinces.

The results of the analysis reveal that blacksmiths in Roi-Et and Chiang Mai villages spent more than 41 hours per week in producing knives, axes, spades, etc. These firms were generally family businesses employing 2-3 members. The amount of time spent on making hand tools varied according to the farming seasons of the region. The number of hours worked declined during the farm planting and harvesting seasons. The earnings per hour of workers making these tools varied from 1.72 baht in Roi-Et to 2.93 baht in Chiang Mai. The author recommends policies to provide adequate supplies of raw material, machinery, credit and marketing facilities to the hand tool producers.

35. Chinn, Dennis L., "Rural Poverty and Structure of Farm Household Income in Developing Countries: Evidence from Taiwan," Economic Development and Cultural Change, Vol. 27, No. 2, January 1979.
File No. 571

The purpose of this study is to do a detailed analysis of the structure of farm household income in Taiwan. The analysis shows that for a major rice-producing region of Taiwan, income from non-farm sources was responsible for rising real income levels. In addition, non-farm income sources played a role in reducing income inequality within the rural sector. The author argues that these results suggest that a somewhat broader view of the rural poverty problem should be adopted. Raising agricultural productivity may be a necessary, but not sufficient, condition for significantly alleviating rural poverty in other contexts.

36. Choe, Yang Boo, "Rural Industrialization in Korea: A Critical Assessment," unpublished paper, Korea Rural Economics Institute, Seoul, Korea, August 1982. File No. 643

This study assesses the character and growth of rural industry in the 1970s in Korea. It also evaluates the industrial development policy programs initiated by the government and makes suggestions for future rural industrialization policies.

The author argues that rural industrialization has been a residual phenomenon separated from the mainstream of industrial development. He argues for a deliberate well-coordinated multi-package policy and program in order to promote rural industrialization.

37. Choi, D. K., and D. Y. Kim, "Women's Contribution to Household Income and Structure of Women's Employment in Korea," Economic Bulletin for Asia and the Pacific, Vol. 27, No. 1, June 1976. File No. 460C

The authors discuss the contribution of women in household income and some factors related to female employment structure and patterns in the Republic of Korea. They found that female contribution to household income decreased with increases in total household income. The level of education did not significantly affect the degree of contribution. The income differential between male and female workers was partly contributed by the differences in number of hours worked, and education status between the two sexes.

Marital status of women was the major factor affecting female labor force participation. The percentage of working females during the normal child care ages was the lowest as compared to other categories. The job-holding ratio of women according to education attainment did not change significantly, except in the cases of college and non-schooling categories.

38. Cloud, Kathleen and Catherine Overholt, "Women's Productivity in Agricultural Systems: An Overview," Paper prepared for the International Agricultural Economics Meetings, Jakarta, Indonesia, August 24 - September 2, 1982.
File No. 642

This paper is a comprehensive review of literature. The first section presents a survey of literature on factors influencing potential differences in productivity between rural men and women. This is followed by a discussion of the relationship between farm household resource allocation patterns and the national economy. An analytic framework for examining women's productivity using the perspective of the family farm firm is proposed in the final section.

39. Daniel, Mark Jeffrey, "Problems in The Theory of Labor Supply," unpublished Ph.D. thesis, Department of Economics, University of Minnesota, St. Paul, Minnesota, June 1974.
File No. 147

A theoretical model for labor supply is presented. The author argues that interpretation of the wage coefficient in different labor supply regression models should be different. The study suggests that the income and substitution effects in interpreting the wage coefficient in the hours of work regressions do not apply to labor force participation rates at a point of time.

The empirical estimation of the model showed that the wage coefficient in the participation rate equations of the groups studied was positive, while in the hours of work regressions the wage coefficient was negative for males and positive for females. The results from adding other labor supply related variables in the model were also discussed.

40. Dantwala, M. L., "A Profile of Poverty and Unemployment in Twelve Villages," Indian Journal of Agricultural Economics, Vol. 30, No. 2, 1975.
File No. 614

The data analyzed were collected through a survey of households in 12 villages in India during 1972-73. The analysis included: (1) the correlation between income, caste and occupations; (2) work participation rates by age, sex and occupation/class of workers; (3) employment and unemployment during the reference week, previous month and year, (4) and health, education, and housing conditions of the households. The results revealed that the occupational pattern of households was strongly determined by their caste. Labor force participation rates by females were low because of caste barriers and heavy domestic work. Only a small proportion of rural people in studied areas benefited from rural works programs initiated by the government.

41. Davey, B. H., Z. A. Hassan, and W. F. Lee, "Farm and Off-Farm Incomes of Farm Families in Canada: An Analysis of the 1971 Consumer Finance Survey," Agriculture Canada, Economics Branch Publication No. 74/17, October 1974, Part I.
File No. 37

This paper reports on the level and distribution of farm and non-farm incomes and the impact of socio-economic factors on income levels and distribution.

The average income of farm families was lower and income distribution more unequal than that of non-farm families. However, the position of farm families would be improved if value of farm assets and income in kind were considered. Average farm family income was highest where age of family head was 25 to 34 years; beyond that a strong negative correlation existed between income and age of family head. Income and level of education of family head were positively correlated. The national average income of farm families in 1971 was \$6,486 with \$4,866 and \$1,620 as net off-farm and net farm incomes, respectively. Major sources of off-farm income were wages and salaries, government transfers, investment income and non-farm self-employment income.

42. Deere, Carmen Diana, "The Division of Labor By Sex In Agriculture: A Peruvian Case Study," Economic Development and Cultural Change, Vol. 30, No. 4, July 1982.
File No. 567

The objective of this paper is to explore the relationship between women's participation within the familial agricultural-labor force and the process of agrarian class formation in a case study of the Andean peasantry. The study focuses on the department of Cajamarca, the most populous Sierra department of Peru. The data were collected from 105 peasant households during June-July, 1976.

The results of the analysis reveal a relationship between the sexual division of labor and the type of cultivation. Women's agricultural participation is related to the household's class position in the process of social differentiation. Women's greater role in familial agricultural production is found among poorer peasant households. As the relative importance of agriculture diminishes (agriculture provides less than subsistence level of income), farming becomes more a familial activity and women's responsibility in agricultural decision-making increases.

43. Denti, Ettore, "Sex-Age Pattern of Labor Force Participation," Development Digest, Vol. 19, No. 2, April 1971.
File No. 621

The work participation rates among males of different age groups are quite similar in different countries, but for females there are wide variations and extensive differences between urban and rural areas. This study covers 40 countries, 13 developed, 27^{less-developed}. Labor participation rates as a percentage of total economically active population are calculated by age, sex, and for urban and rural areas. These participation rates are compared across countries.

The results show that rural male labor participation rates of all ages were generally higher in developing countries than in developed countries, but the differences were not very significant. In the case of females, however, participation rates were less in developing countries than in developed countries and the distribution of participation rates by age was also different.

44. Deyo, Fredric C., and Peter S. J. Chen, "Female Labour-Force Participation and Earnings in Singapore", Economic Bulletin for Asia and The Pacific, Vol. 27, No. 1, June 1976.
File No. 460B

This study focuses on various issues related to female labor force participation in Singapore. The authors also analyzed determinants of female labor supply.

Using existing data and findings, the study found significant growth in the female work force during 1966-1974. It also found that the entry of a large number of females in unskilled blue-collar and low-paying service occupations increased occupational imbalance in the labor force. As a result, the male-female earnings gap widened in the development process. The authors predict that occupational and earning gaps between males and females will be narrowed in the future.

45. Dixon, Ruth B., "Four Programs of Employment for Rural Women in India and Bangladesh," Development Digest, Vol. 17, No. 1, 1979.
File No. 620

This article reviews four programs in India and Bangladesh specifically intended to mobilize female labor for productive purposes. The programs discussed are: Women's Agricultural Cooperatives in Bangladesh, Milk Cooperatives in India, Jute Handicrafts in Bangladesh, and Food Processing in India. It was found that these programs created new opportunities for gainful employment to which women from the poorest sectors of the population responded immediately. The new income generated through these programs contributed significantly to the total income of households.

46. Dixon, Ruth B., "Mobilizing Women for Rural Employment in South Asia: Issues of Class, Caste and Patronage," Economic Development and Cultural Change, Vol. 30, No. 2, January 1982.
File No. 569

The extreme irregularities of wealth and rigid caste hierarchies, characteristic of many regions of South Asia, need not be a deterrent to the formulation of effective employment policies for rural women. On the contrary, they create easily identifiable groups of women who have common economic and social concerns. The author has reviewed the ways in which class and caste structure jointly influence the tendency for females to work outside the home in particular occupations. She finds that caste and class identities should be given proper consideration in formulating employment creation policies for the women. She also suggests new and alternative sources of employment for poor rural women in order to lessen the dependence of landless or subsistence farm households on wealthy patron families.

47. Edwards, E. O. (editor), Employment in Developing Nations, Columbia University Press, New York, N.Y., 1974.

The papers selected for this volume are revised versions of those prepared for three international seminars conducted by the Ford Foundation in 1973 as a part of its study of employment problems in developing nations. To lend focus to their efforts, the employment problems have been approached from five different but overlapping points of view - policy, technology, rural development, international issues and education. While the papers presented do not deal directly with part-time farming, the issues discussed provide insight into the rural environment of developing countries, as well as policy consideration for rural development.

48. Faaland, Just, and J. R. Parkinson, Bangladesh: The Test Case of Development, Westview Press, Boulder, Colorado, 1976.
File No. 600

In Chapter VIII, the authors discuss rural employment and rural development in Bangladesh and argue that the employment situation is getting worse over time. The solution within the context of a market

economy is uncertain. They feel that special programs and policies will be needed to expand rural employment. Local governments should actively organize rural works programs, but the authors feel that programmes of compulsory participation in development projects will not solve the unemployment problem.

49. F.A.O., China: Rural Processing Technology, unpublished report, Food and Agricultural Organization of the United Nations, Rome, Italy, 1979. File No. 616

Chapter 5, 6 and 7 of this report discuss Chinese rural industries. In chapter 5, food processing enterprises in communes are studied. The number of workers employed in these firms varied widely from less than 10 to more than 2,000, but generally 2 - 3 hundred people were employed in an enterprise.

Non-food processing enterprises are discussed in Chapter 6. Such activities include silkreeeling, carpet weaving, paper making, bamboo weaving, fur processing, etc. In chapter 7, some other non-processing activities, such as manufacturing of riceland "boat" tillers and harvesters, bolts and nuts, water or oil tanks, etc, are discussed. The study concludes that establishment of industries at various scales and levels of technology, as in China, could help absorb surplus labor in many developing nations.

50. Ferreira, Leo D. Rocha, and W. W. McPherson, "Effects of Alternative Policies on Level and Variation of Income and on Resource Use and Output, Northeast Brazil," unpublished paper, Food and Resource Economics Department, University of Florida, Gainesville, Florida, 1982. File No. 660

This study examines the potential effects of selected policies on level and variation in farm incomes, output and employment. The policies considered are: (a) increase in the price for cotton, (b) elimination of cotton as an activity, (c) elimination of sharecropping on large farms, and (d) a reduction in credit. Linear and quadratic programming models were used in the analysis.

The results of the study show that an increase in cotton price will increase the income and employment of the small farmers. The reduction in credit supply to 75 percent of the existing level did not affect income and employment levels. No cotton policy had adverse effect on small farmers' income. The amount of labor spent on off-farm activities by the farmers is found to decrease under all the alternative policy situations. The results of analysis of large farms were also similar.

51. Fredericks, L. J., R. J. G. Wells and B. W. Dissanayake, "Patterns of Labor Utilization and Income Distribution in Rice Double Cropping Systems: Policy Implications," Discussion Paper Series No. 77-12, University of the Philippines, Diliman, Quezon City, Philippines, October 1977.
File No. 386.

This study discusses the impact of agricultural transformations on labor utilization and income distribution in the Sawah Sempadan area of Tanjong Karang in the Philippines.

Using household level data on labor utilization and income distribution, the researchers found that the majority of the farm households cultivated paddy as a major crop. Most of the households were affiliated with one or more village level institutions. The degree of institutional affiliation increased with size of land holding. On paddy farms, a large amount of human labor needs were met from family labor resources. While the farmer contributed the greatest amount of labor for all operations, the wife worked on harvesting, thrashing and planting operations. Labor use intensities differed significantly in the different farm-size categories. The authors agreed that double cropping would increase income disparities among different sized farmers mainly because of unequal access to land resources. Similar impacts of multiple-cropping systems were also found on labor utilization among paddy farmers.

increases in farm size. The use of improved technologies by farmers increased employment opportunities. Such technologies also created labor supply shortages in different months of the year depending upon agro-climatic conditions in different regions.

54. Guino, Ricardo A., "Time Allocation Among Rice Farm Households in Central Luzon, Philippines," unpublished M.Sc. thesis, Department of Agricultural Economics, University of Philippines, Los Banos, Philippines, December 1978.
File No. 333

The study finds that farm and non-farm employment increased substantially between 1967-72. The standard of living of farm households also showed substantial improvement reflecting gains in income as a result of adoption of high yielding rice varieties.

In the study region, farm families spent two-thirds of their total productive time in rice farming, one-fourth in non-farm employment and the rest in non-rice farm activities and hired farm employment. Household time allocation did not vary significantly among the three locations studied.

Among the family members, father's productive time was about double the hours of non-household work of mothers. The work time of children was as high as mothers. The time allocation of households was affected by various economic, demographic and institutional factors.

55. Gunter, L. and A. Vandeman, "An Econometric Analysis of the Market for Casual and Other Hired Labor," Paper presented at the AAEA meeting at Clemson, S.C., USA, Department of Agricultural Economics, University of Georgia, Atlanta, Georgia, July 1981.
File No. 504

The authors have attempted to extend labor supply and demand analysis by disaggregating hired labor by the number of days worked. Casual workers are analyzed separately from non-casual workers. The study also employs different specifications of the labor demand and supply functions.

The authors find that the demand for casual labor appears to have responded little to wage rates, but responded strongly to increase in the overall productivity of inputs and output levels. The supply elasticity of casual labor with respect to wages is close to unity and less than the supply elasticity for non-casual labor. There also appear to be differences in non-casual labor responses to changes in technology and with respect to the effect of wage changes on labor supplied.

56. Gupta, Devendra B., "Government Policies and Programmes of Rural Industrialization with Special Reference to the Punjab Region in Northern India," Paper No. WEP 2-37/WPS, International Labor Organization, Geneva, Switzerland, June 1980.
File No. 381.

This study focuses on the evaluation of rural industrialization policies and programs in the States of Punjab and Haryana in India during the last thirty years. Several steps have been taken to assist village industrial units to modernize production techniques. This helped them to meet the new emerging demand arising out of changes in consumer tastes. Cost-benefit analysis of a project in Sangrur district showed that the investment was socially beneficial. Cheap money policies in these states are noted to promote growth of capital-intensive industries. The high elasticity of substitution in most cases implied that a larger increase in employment may be feasible with a given investment.

57. Hanoch, Giora, "A Multivariate Model of Labor Supply: Methodology for Estimations," Dept. of Health, Education and Welfare, Unpublished Report No. R-1869-HEW, Washington, D.C., USA, September 1976.

The author developed an econometric model to estimate supply of labor. He also discussed six major problems peculiar to labor supply. The general model is transformed into an operational model by dropping unobservable variables and making modifications to account for selectivity bias. The author discusses the use of the model for empirical analysis.

58. Hansen, Bert, "Employment and Rural Wages in Egypt: Reply," The American Economic Review, Vol. 61, No. 3, Part I, June 1971.
File No. 558

This note is a reply to the paper entitled "Employment and Rural Wages in Egypt: A Reinterpretation," by James A. Hanson in the American Economic Review, June 1971. The author argues that Hanson's alternative interpretation of seasonal fluctuations of daily wages based upon the data from the rural employment survey of the International Labor Organization and the Institute of National Planning, Cairo, does not hold true.

He argues that, to some extent, Hanson repeated his own conclusion of unemployment at certain times of the year and that outside work was not always available. The author agrees with Hanson's concluding recommendations of counterseasonal employment policies. However, he finds problems with the priority for village electrification to create counterseasonal employment opportunities. He argues that elimination of seasonal underemployment using this method may cause underemployment of capital.

59. Hanson, James A., "Employment and Rural Wages in Egypt: A Reinterpretation," Vol. 61, No. 3, June 1971.
File No. 548

The author attempted to reinterpret the results of the survey conducted in Egypt by the International Labor Organization and the United Arab Republic government. He refuted the findings of many of the past studies that rejected the surplus labor-traditional wage hypothesis.

He argued that the evidence from the survey was broadly consistent with either a marginal productivity theory of distribution or a traditional subsistence wage theory of distribution. The evidence was, however, found as most consistent with a more sophisticated hypothesis of wage determination incorporating both seasonal variation in employment and handicraft production. The study also presents policy implications of accepting more sophisticated hypotheses of wage determination.

60. Hanson, R. J., "An Economic Analysis of Off-Farm Income as a Factor in the Improvement of the Low Farm Income Farmers in Illinois," unpublished Ph.D. Dissertation, Department of Agricultural Economics, University of Illinois at Urbana-Champaign, Illinois.
File No. 60

Off-farm income has been considered a feasible alternative toward income improvement through part-time farming and non-farm employment. The study attempts to explain off-farm income earned due to variation in market conditions, farm characteristics and personal attributes. Methods of analysis include: cross classification; frequency distributions; analysis of variance and multivariate regression. The final chapter examines policy implications and feasibility.

61. Harper, Malcolm and Tan Thiam Soon, Small Enterprises in Developing Countries, Case Studies and Conclusions, Intermediate Technology Publications Ltd., London, 1979.
File No. 436

In part one of this book, a number of case studies are published on small-scale enterprises in developing countries. Analysis and conclusions by the authors, based upon these case studies, are presented in part two.

The case studies deal with a variety of small-scale enterprises found in different low-income countries. The authors derive a number of conclusions based upon these studies. They also make suggestions for future policies for role of government, credit programs for small enterprises, extension services and training, technology, and supporting services for small-scale industries.

62. Hart, Gillian P., "Labor Allocation Strategies in Rural Javanese Households", unpublished Ph.D. dissertation, Department of Agricultural Economics, Cornell University, Ithaca, N.Y., August 1978.
File No. 340

The author argues that knowledge about time allocation behavior of households is important for policies. It provides information on constraints under which households operate, and explains how changes in such constraints affect household decisions.

The results revealed significant inter-class differences in labor allocation in rural areas. Such inter-class differences in allocation strategies were both an immediate response to the system of production and exchange relationships, and an aspect of the tendencies towards differentiation and polarization inherent in the system.

Access to assets and the organization of production also determined labor allocation decisions. The study discussed social services and welfare programs and their rationale in improving human capital of the poor.

63. Hathaway, Dale E. and Arley D. Waldo, Multiple Jobholding by Farm Operators, Research Bulletin 5, Ag. Experiment Station, Dept. of Agricultural Economics, Michigan State University, East Lansing, Michigan, USA, 1964.

This is an exhaustive study of multiple jobholders in the U.S. between 1955-59. The extent, nature, and types of earnings of farm operators with off-farm income were studied. Multiple jobholding was inversely related to age, not a continuous employment for most farm operators, and most frequently was a government job. Type of off-farm work was related to operator's farm income, as was the industry of employment. Data showed that most off-farm work in 1955-59 was seasonal or occasional to supplement farm income.

64. Hayami, Yujiro, Anatomy of a Peasant Economy: A Rice Village in the Philippines, The International Rice Research Institute, Los Banos, Laguna, Philippines, 1978.
File No. 641

In the first two chapters of this book, objectives, data collection procedures, plan of the study, and description of the village are presented. Chapter 3 deals with patterns of labor utilization in the

village. Household income flows and asset positions are discussed in Chapters four and five. In Chapter 6, social accounts of the village economy are constructed. Policy implications and future research records are discussed in the final chapter.

The analysis of labor utilization showed that people worked both as self employed and hired laborers. Most households also performed on-farm and off-farm activities. The proportion of total working hours spent on off-farm and non-farm activities by the households was less in the case of large farmers as compared to small farmers and landless workers.

65. Hayami, Y. and M. Kikuchi, "Social Accounts of a Philippine Village," The Developing Economics, Vol. 16, No. 2, June 1978.
File No. 261

The authors constructed village economic accounts in an articulated double-entry system. The data used in this study were based on the integrated household record-keeping project conducted in a typical rice village in the Philippines. The study documented the production, income-expenditure, capital formation and transaction activities in the village.

The authors emphasized that because of small sample and the use of only one year of data, the findings could not be generalized. However, they show that data can be collected and documented at a village household level to be consistent with the framework of macro national accounts. They argue that such studies will improve the reliability of national income accounts in developing countries.

66. Hayami, Y., P. Flores-Moya, L. Maligalig-Bambo and M. Kikuchi, "Anatomy of Peasant Economy: The Economic Accounts of Rural Households in the Philippines," Paper No. 76-25, Dept. of Agricultural Economics, IRRI, Los Banos, Laguna, Philippines, July 1977.
File No. 485

In this study, the authors document the production, income-expenditure, capital formation, and transaction activities a village household. A set of

economic accounts in a completely articulated double-entry system are used. A record-keeping project was conducted in a village in Southern Luzon to collect data for the study.

The main emphasis is to construct an accounting system similar to macro national accounts, and to collect and document data for such purposes rather than deriving definitive conclusions or policy implications.

67. Hayami, Y., P. Flores-Moya, L. Maligalig-Bambo, and M. Kikuchi, "Social Accounts of A Rice Village in Southern Luzon," Paper No. 76-26, Agricultural Economics Department, IRRI, Los Banos, Laguna, Philippines, July 1977.
File No. 484

This study attempts to construct the social accounts of a rice village in Southern Luzon, the Philippines, based on data generated from an integrated household record-keeping project conducted from June 1975 to May 1976. The authors document the production, incomes, expenditures, capital investments and financing, and assets in the village. The main emphasis is on issues related to collection of data and construction of economic accounts for the village rather than deriving generalization and policy implications.

68. Heckman, James J., "A Partial Survey of Recent Research on the Labor Supply of Women," American Economic Review, Vol. 68, No. 2, May 1978.
File No. 554

This paper is a progress report on recent research on the labor supply of married women. The study presents some results of recent investigations on life cycle labor force participation. Certain implicit assumptions in previous work are also spelled out by the author. A more complete discussion of these issues is given in the author's other unpublished paper titled, "Dynamic Models of Female Labor Supply," University of Chicago, April 1977.

69. Ho, Sam P. S., "Small-scale Enterprises in Korea and Taiwan", Working Paper No. 384, The World Bank, 1818 H Street N.W., Washington, D.C., U.S.A., April 1980. File No. 432

This study reviews the evidence from censuses and surveys on small enterprises in Korea and Taiwan. Its purpose is to provide clarifications on the changing size structure of industrial and some tertiary activities as the economies developed; on the efficiency, labor intensities, product markets and other characteristics of small enterprises; and on how small scale production is influenced by growth and by changes in development policies.

The findings show that in contrast to the general belief that low-volume techniques are labor-intensive, in Korea low volume techniques do not always have capital-saving attributes. The success of Korea's and Taiwan's manufacturing sectors in absorbing labor is due, in large part, to the development of industries that produce labor-intensive products rather than to any special attention to small-scale manufacturing.

70. Huffman, Wallace E., "The Productive Value of Human Time in U.S. Agriculture," American Journal of Agricultural Economics, Vol. 58, No. 4, November 1976. File No. 533

This study analyzes the quantity and marginal productivity of farm husband and wife labor allocated to their own farm work. A behavioral model of the farm firm is developed and empirically estimated by fitting a production function to county average per farm data for 1964 for Iowa, North Carolina, and Oklahoma counties. A comparison of marginal products of husband's and wife's labor inputs with opportunity costs yields the implication that rural to urban migration and re-allocation of working time between on and off-farm work succeeded in getting rid of excess labor in U.S. agriculture.

71. Huffman, Wallace E., A Cross-Sectional Analysis of Non-farm Work of Farm Family Members, unpublished report, Department of Economics, Iowa State University, Ames, Iowa, USA, January 1976.
File No. 18

By using a multiple job-holding model of a household's allocation of husband's and wife's time, this study analyzes the determinants of short-run and long-run total labor supply and off-farm labor supply of farm households. The county was used as a unit of analysis. The data were collected from 276 counties in Iowa, North Carolina and Oklahoma.

Farm and off-farm wage rates and commuting distance to off-farm work were important determinants of both total and off-farm labor supply. The non-earnings income elasticity of labor supply (total and off-farm) was positive. Husband's and wife's education, husband's age, number of young children, number of older children and other adults, racial color, and characteristics of farm households contributed significantly to explaining days worked. The study predicts that off-farm employment of farm households is likely to increase in the future.

72. Huffman, Wallace E., "Farm and Off-Farm Work Decisions: The Role of Human Capital," Review of Economics and Statistics, Vol. 62, No. 1, 1980, pp 14-23.
File No. 445

This study uses an econometric model to analyze the effects of investments in education and information (agricultural extension) on the off-farm labor supply of farmers. The data used were county averages per farm for Iowa, North Carolina, and Oklahoma.

The results reveal that farmers with more education, even when they have not migrated have re-allocated their labor services from self-employed farm work to off-farm work faster than those with lower levels of education. Thus, part of the return to education in agriculture arises from its effect on the allocation of labor between farm and non-farm labor markets.

73. Huffman, Wallace E., and Mark D. Lange, "Farm Household Production: Demand for Wife's Labor, Capital Services and the Capital-Labor Ratio," Unpublished paper, Department of Economics, Iowa State University, Ames, Iowa 50011, May 1982.
File No. 506

The authors develop a model of household resource allocation. They also analyze the determinants of factor utilization in household production. Demand functions for wife's leisure, household labor, capital services from household appliances and housing, and the household capital-labor ratio are fitted to micro-household data from a 1977 survey.

The results reveal that wives' household labor reacts significantly differently from leisure to economic forces. Household capital services and husbands' and wives' household labor are substitutes in production. A rise in wives' wage reduces the quantity of their household labor demanded. A rise in wives' wages also raises the household capital-labor ratio.

74. Huq, A.F., and M.D. Habibul, "Labor Force Analysis: Bangladesh, 1974," The Bangladesh Development Studies, Vol. VI, No. 2, Summer 1978.
File No. 605

The Bangladesh labor force is largely rural, agrarian, and bears distinct age, sex, regional differentials. Inter-censal comparisons reveal no significant rural-urban redistribution or re-structuring among fields of economic activity during 1961-74. The estimated labor force replacement ratio showed that for every 100 depletions, 275 new entries or 175 net additions took place annually. The study suggested that 9.5 million people were unemployed or under-employed. Economic-geo-demographic realities make it inevitable that the vast majority of the surplus labor force will have to be productively employed in a rural area.

Basic changes in production relations are needed to gainfully employ the adult working population through optimum exploitation of its productive potentials.

75. Huq, M. Amreel (ed.), Exploitation and The Rural Poor - A Working Paper on Rural Power Structure in Bangladesh, Bangladesh Academy for Rural Development, Kothbari, Comilla, Bangladesh, March 1976.
File No. 598

Chapter IV of this book presents an analysis of economic activities in Bondokgram village in Bangladesh. It was found that people in the village obtained their income from a variety of sources in addition to cropping. The study discusses the on and off-farm supply of rural household labor by the size of landholding. Sixty percent of the households with landholdings of more than 2.5 acres had at least one member in off-farm occupations, and 40 percent had at least two members with off-farm employment. These proportions were 45.1 and 23.1, respectively, for households with holdings between 1.00 and 2.49 acres. Fifty-five percent of the households with less than one acre had at least one member working off-farm. The results of the survey in Mampur Village were similar.

76. Institute of Pacific Relations, Agrarian China: Selected Source Materials from Chinese Authors, The University of Chicago Press, Chicago, Illinois, U.S.A., 1978.
File No. 622

Section IV of this book contains nine studies by Chinese authors addressing issues related to rural handicrafts and small-scale industries, and off and non-farm employment in China.

The study by Lee Tse-tsrn discusses the decline of Chinese handicrafts. Rural auxiliary occupations and their importance in economic life of households are analyzed in the paper by Lang An. Articles by Shih Ko and Chien Chao-hsuen cover the home brewing industry in Tai-Hsin Kiangsu and silk farming in Wusih, respectively. Hand weaving activities by peasant women and hand weaving centers in China are the topics of investigations by in Lo Chun and Chen yi-Kuan. Papers by Hao Pun-Sui and Hu Nai-tsiu analyze the phenomenon of rural out-migration, and Chang Yu-Sui discusses general economic decline in Northern Fukien.

77. Islam, Naral, Development Strategy of Bangladesh, Pergamon Press, New York, 1978.
File No. 599

The author argues that the abundant surplus labor in rural areas should be utilized to undertake rural public works such as construction of roads, schools, ditches, etc. Several limitations in the method of using non-compensated idle labor are presented. He suggests that small-scale and cottage industry will provide a great source of employment in rural and semi-urban areas, and suggests measures to improve efficiency of existing cottage industries.

78. Islam, Rizwanal, and R. I. Rahman, "Surplus Labor in Bangladesh Agriculture - A Comment," The Bangladesh Development Studies, Vol. VI, No. 2, Sept. 1978.
File No. 626

This paper is a comment on the methods used by Mugtada in estimating rural labor supply in Bangladesh, which appeared as "The Seed-Fertilizer Technology and Surplus Labor in Bangladesh Agriculture," published in The Bangladesh Development Studies, Vol. III, No. 4, October 1975.

The authors find that, due to faulty measurement procedures, the study seriously underestimated transferable surplus labor in agriculture. By using their techniques, they show that a considerable amount of surplus labor exists in the farm sector even during the peak season. They also argue that the demand for labor was overestimated.

79. Jackson, Dudley and H. A. Turner, "Rural Public Works in Morocco," Development Digest, Vol. XI, No. 4, October, 1973.
File No. 619

The authors discuss the Promotion Nationale program initiated in Morocco in 1961. The objective of the program was to employ rural underemployed labor for improving and developing underprivileged areas of the kingdom. The program was confined to types of activity

which were technically simple, labor intensive and improved rural output. Participating workers were compensated both in kind and cash.

The analysis reveals that an average of 60,000 men were employed in the program each year during 1961-70. The projects undertaken had favorable benefit-cost results. Most criticisms of the program concern administrative aspects reflecting bureaucratic rather than economic shortcomings.

80. Jain, Netra Pal, Rural Reconstruction in India and China (A Comparative Study), Sterling Publishers (P) Ltd., New Delhi 16, India, 1970.
File No. 602

In chapter 7, the author discusses rural industrialization in India and China. In India, rural industries comprise activities such as manufacture of khadi (coarse cloth), oil, soap, etc. The author discusses the achievements made in the development of these industries, particularly the khadi industry.

Chinese industrialization policies did not make any distinction between rural industries and urban industries; for example, they tried to produce steel in cottage industry alongside the establishment of giant steel mills. Special efforts have been made in China to develop rural handicrafts as a source of employment. These handicraft industries were organized in the form of cooperatives.

81. Jitsanguan, Thanwa, "Effect of Off-Farm Employment on the Structure and the Distribution of Income," Research Paper No. 15, Center for Applied Economics Research, Kasetsart University, Bangkok, Thailand, August 1982.
File No. 594

This paper examines the effects of off-farm employment on the income structure and distribution in selected provinces in Thailand. The author suggests that not only the off-farm employment would make the industrial development and create job opportunities in rural areas, but it would also help improve the pattern of income distribution.

The paper contains six parts. Part II presents the income structure and distribution of sampled farmers. Part III analyzes the distribution of farm household income according to various income classes. The Gini concentration ratio technique is used in part IV to measure household income distribution in the study areas. Various factors influencing farm household income in each province are examined in part V. Part VI presents conclusions of the study.

82. Jones, Christine, "Women's Labor Allocation and Irrigated Rice Production in North Cameroon," paper prepared for the 18th Conference of the International Association of Agricultural Economists, Jakarta, Indonesia, August 1982, Harvard Institute for International Development, Cambridge, MA. 02138
File No. 659

This study examines the hypothesis that the extent to which husbands can mobilize their wife's labor needs depends upon the rate of compensation they offer. The view of intrahousehold dynamics presented in this paper assumes that at the margin a family member would rather spend an additional unit of income on fulfilling his or her own obligations than give it to the other family members. The author's analysis of time allocation by women in farm families in Cameroon support this argument.

83. Kada, Ryohei, "Off-Farm Employment and Farm Adjustments: Implications of Part-Time Farming for Rural Development", Dept. of Agricultural Economics, Faculty of Agriculture, Kyoto University, Kyoto, Japan, September 1979.
File No. 468

In this paper, case studies from the U.S. and Japan are compared to analyze how a different structure of opportunities affects and determines adjustments made by farm families with respect to factor use, types of farm technology, and other farm and family organizations. The farm family is used as a unit of analysis.

Off-farm employment provides additional income to the farm family as well as stabilizes total income. The aging structure of the farm family has a substantial impact on labor allocation, and off-farm employment makes a significant contribution in smoothing out family income. The policy implications of part-time farming are two-fold: (a) the dual employment pattern is likely to bring about more efficient use of family labor resources, (b) non-labor farm resources are likely to be used less efficiently by the part-time family.

84. Kada, Ryohei, Part-Time Family Farming, Off-Farm Employment and Farm Adjustments in the United States and Japan, Center for Academic Publications Japan, Tokyo, Japan, 1980.
File No. 601

This book presents an analysis of various aspects of part-time farmers in Japan and the U.S. Theoretical aspects of dual job-holding and off-farm employment are discussed. The nature of on-farm adjustments made by part-time cultivators in Wisconsin, USA, and Shiga, Japan are also discussed. Labor allocation decisions of part-time farmers are analyzed with primary data collected in both countries. A life cycle approach to labor allocation behavior is presented. Major conclusions and policy implications are listed.

85. Kada, Ryohei, "Changing Rural Employment Patterns: Role of Off-Farm Employment for Balanced Rural Development", paper presented at 18th Conference of the International Association of Agricultural Economists, Jakarta, Indonesia, August 24-September 2, 1982, (Department of Agricultural and Forestry Economics, Kyoto University, Kyoto, Japan.)
File No. 662

The objectives of this study are: (a) to present an overview of the extent and nature of off-farm employment in both developed and developing countries, (b) to theoretically analyze the rationale for off-farm employment or part-time farming, (c) to examine the viability and policy implications of off-farm employment for sustained rural development.

The author finds that between 18 and 51 percent of rural employed labor force in selected countries was engaged in non-agricultural activities. Similarly, in the farm sector, a significant percentage of rural households in developed countries are part-time farmers. Farm size and the degree of industrialization were the major factors influencing the extent of off-farm employment of farm households. The availability of off-farm employment improves total rural employment opportunities, income distribution and linkages between agricultural and industrial development.

86. Kamajou, F. and C. B. Baker, "Reforming Cameroon's Government Credit Program: Effects of Liquidity Management by Small Farm Borrowers," American Journal of Agricultural Economics, Vol. 62, No. 4, November 1980.
File No. 537

Higher interest rates and credit limits, as well as modified lending practices, have been proposed to improve the performance of credit programs for small farmers in developing countries. Models based on Cameroon field data are used to generate results from such reform proposals. The results suggest that small farmers' benefits could be increased by increasing credit limits and flexibility in the use of loan proceeds, while reducing default rates and expanding program outreach.

87. Kawano, Shigeto, "Plurality of the Employment Structure in Japanese Agriculture," Rural Economic Problems, April 1983, Preliminary Issue.
File No. 612

The author finds that during the 1957-1960 period, rural family size and farm work hours relative to total working hours of the farm household in Japan decreased. Similarly, the share of farm income to total household income also decreased. This indicates that rural households were becoming more engaged in off-farm activities. Analysis of the 1960 data revealed that part-time farmers were more dependent on non-farm

employment as a source of income than were full-time farm families. They also worked more hours in non-agricultural enterprises. The total number of full-time farmers decreased between 1955 and 1960.

88. Keeley, M.C., P.K. Robins, R.G. Spiegelman, and R. W. West, "The Estimation of Labor Supply Models Using Experimental Data," The American Economic Review, Vol. 68, No. 5, December 1978.
File No. 553

A methodology is presented in this study to deal with several shortcomings in the negative income tax experiment data. Experimental data from the Seattle and Denver Income Maintenance Experiments are used to estimate the parameters of a labor supply function. These parameters are then used to predict the nationwide labor supply effects of alternative negative income tax programs. The study concludes that the labor supply responses to alternative nationwide NIT programs vary widely with parameters of the program.

89. Kiatying-Ungsulee, O., "Distribution of Farm and Non-Farm Enterprises in Farm Households," Conference paper no. 16, Center for Applied Economics Research, Kasetsart University, Bangkok, Thailand, 1981.
File No. 633

This paper presents monthly information on distribution of farm and non-farm enterprises in farm households in four provinces of Thailand. Thai rural households are engaged in a variety of farm and non-farm activities. The number of farm level enterprises, however, were generally greater than non-farm level enterprises on individual farms. The number of farm and non-farm activities performed by farm households also varied between dry and wet seasons.

90. Kim, Daemo, "Sources of Over time Changes in the Rural-Urban Gap and the Intra-farm Inequality of Income in Korea," Journal of Economic Development, Vol. 3, No. 1, 1978.
File No. 604

The purpose of this study is to quantitatively trace out sources which increase and reduce income inequalities in rural Korea. The sources of income studied are agriculture, side-business and non-business. The impact of changes in different farm sizes on income distribution in the rural sector is also studied.

The data cover the years 1965-1975. Growth in agricultural income tended to widen the inequality among farm households. Side-business income contributed to narrowing the income inequality between 1965-70. However, between 1970-75, it tended to widen it. The growth in non-business receipts showed a tendency to equalize the distribution among farm households. Changes in the composition of farm households increased their average income and, therefore, narrowed the income inequalities.

91. Kniesner, Thomas J., "How Close is the Labor Market to an Auction Market--or, When is a Labor Supply Regression a Labor Supply Function?", Paper presented at the ASSA Meetings, New York, N.Y., 27-30 December, 1982.
File No. 639

Author examines the structure of labor markets. A brief review of related literature is made. A new approach to the study of labor market structure is presented using a life-cycle model of family labor supply. The model is empirically estimated using data from 519 men for twelve years (1968-79).

The study concludes majority of the past research assume that some individuals are constrained, and that constrained individuals can be identified ex ante. The analysis made in this study is, however, kept quite simple.

92. Krongkaew, Medhi, "Rural Public Works Program and The Income Distribution in Rural Thailand," paper presented at the 18th Conference of the International Association of Agricultural Economists, Jakarta, Indonesia, August 24-September 2, 1982.
File No. 666

This study analyzes the impact of the Rural Job Creation Project in Thailand on rural poverty and income distribution. First, the paper discusses the current state of poverty and income inequality in rural Thailand. It is followed by a discussion on the nature and operation of the Rural Job Creation Project. The impact of the Job Creation Project on rural poverty and income distribution is analyzed and policy recommendations are presented in the final part.

The general observations made in the study reveal that, except in the Northern region, income distribution within rural areas improved as a result of the Project. The Project also provided significant employment opportunities for the rural poor.

93. Lange, Mark D. and Wallace E. Huffman, "Farm Household Production: Demand for Wife's Labor, Capital Services and the Capital-Labor Ratio," Contributed paper at the AAEA meeting in Clemson, S.C., USA, July 1981.
File No. 507

This paper presents a model of farm household resource allocation and econometric estimates of equations explaining absolute and relative factor intensities of household production. Demand functions for wife's household labor, capital services from household appliances, and housing are fitted to micro-household data from a 1977 survey of Iowa households.

The results reveal that permanent farm income had a positive effect on both capital services and the capital-labor ratio. The coefficient of permanent other income was negative. These coefficients were, however, not statistically significant. The substitutability of household capital services for wife's household labor increased as age of children increased.

94. Ledesma, Antonio J., "Landless Workers and Rice Farmers: Peasant Sub-classes Under Agrarian Reform in Two Philippine Villages", unpublished Ph.D. dissertation, Department of Agricultural Economics, University of Wisconsin-Madison, Wisconsin, USA, February 1980.
File No. 499

This is an explanatory study that sought a clearer formulation of the problem rather than test a prior hypotheses. The study specifically focuses on issues related to social dynamics, equity, productivity, employment, and policies of agrarian reforms. Two villages were selected for the study.

The author analyzes interactions between landless workers and tenant beneficiaries of agrarian reforms. Some important findings are: as a group, landless workers were younger, they were worse off in terms of socio-economic indicators, they did more work for the same traditional share of harvest, they may be adversely affected by some forms of new technology and agrarian reforms, and their children suffered more constraints in continuing their schooling.

Small tenant-farmers experienced greater security of tenure and some reduction of land rentals under agrarian reform. They also confronted higher production costs, credit and marketing problems, and greater risk exposure.

95. Lewis, John P., "The Public Works Approach to Low-end Poverty Problems," Development Digest, Vol. XI, No. 4, October 1973.
File No. 618

The author argues that the most promising method of attacking the problems of the poorest groups in developing countries is to provide employment in public works that will add to the nation's productive potential. He discusses the reasons for this approach, questions of financing, and the contributions public works could make to locational planning. He also discusses various income and employment problems of the rural poor.

96. Lora, Jeannette Mercado, "The Influence of Agricultural Credit in Labor Allocation Between Farm and Off-farm Employment, Two Case Studies: Sucre, Bolivia," unpublished M.S. Thesis, Department of Economics, Arizona State University, Tempe, Arizona, August 1982.
File No. 637

The objective of this study is to evaluate the role of agricultural credit on labor allocation of a farm household with access to both credit and off-farm labor markets. A theoretical framework is presented. Two case studies are conducted from Sucre, Bolivia, one with credit-using and another with non-credit using farm households. They are compared in terms of annual income, cash flow, consumption, and labor allocation. It was found that farmers' farm labor commitment was greatly increased as a result of credit use. Conversely, non-borrowers allocated more of their time to off-farm work due to lesser opportunities on the farm.

97. Lucas, Robert E.B., "The Distribution and Efficiency of Crop Production in Tribal Areas of Botswana", Discussion Paper No. 81-45, Population and Human Resources Division, The World Bank, Washington, D.C., September 1981.
File No. 657

This is the first national scale study of crop production in Botswana. The analysis is focused on the role of crop production in the Botswana economy and the ability of farming to absorb more labor as demand for workers in South Africa declines. Attention has also been directed to the consequences of male withdrawal from rural areas, and especially the common outcome of very low income female-headed households.

The results of this paper indicate that larger scale crop operations are more profitable. Although most households have land, crop production is relatively unimportant to the total economy. Women do most of the family crop work. Evidence also suggests that men and women are substitutes rather than complements in cropping, both in the production function sense and in the sense of de facto time input.

98. Lucas, Robert E. B. "The Distribution of Wages and Unemployment in Rural Botswana," Discussion Paper No. 81-46, Populations and Human Resources Division, The World Bank, Washington, D.C., September 1981.
File No. 656.

The Rural Income Distribution Survey demonstrates that very little wage labor has been established outside of urban areas and freehold farms in Botswana. In part, this is attributable to a dearth of wage work in crop farming as compared to many LDCs. Only about 15 percent of rural wage workers are engaged in agriculture. The rural wages are considerably lower than urban wages even for persons of comparable age, education and sex. Women are discriminated against in probability of employment, days worked and daily wages.

99. MaCurdy, Thomas E., "An Empirical Model of Labor Supply in a Life Cycle Setting," Journal of Political Economy, Vol. 89, No. 6, 1981.
File No. 575

This paper formulates and estimates a structural intertemporal model of labor supply. Using theoretical characterizations derived from an economic model of lifetime behavior, a two-step empirical analysis yields estimates of intertemporal and uncompensated substitution effects which provide the information needed to predict the response of hours of work to life-cycle wage growth and shifts in the lifetime wage path.

100. Mead, Donald C., "Subcontracting in Rural Areas of Thailand," Research Paper No. 5, Center for Applied Economics Research, Kasetsart University, Bangkok, Thailand, November 1981.
File No. 585

This paper discusses subcontracting systems in ready-made garments, knitting, fish nets, and silk industries in Thailand. The author finds that in some villages the rural households spent a considerable amount of their active employment on subcontracting activities. It was also found that females spent relatively more time doing subcontracting work than the males. The study also discusses the advantages and disadvantages of subcontracting systems. The author concludes that expansion of subcontracting and similar activities can provide income earning options to the villagers. However, subcontracting alone cannot by itself solve the problem of rural poverty in Thailand.

101. Mead, D. C., and P. Charsombut, "Rural Off-Farm Employment in Thailand: Phase I Survey Results," Research Paper No. 2, Center for Applied Economics Research, Kasetsart University, Bangkok, Thailand, June 1980.
File No. 582

This paper presents the results of the first stage of research undertaken in the Rural Off-Farm Employment Assessment Project in Thailand. The main purpose of the Phase I survey was to provide information needed for Phase II of the project. In the introductory section, rural industry and economic development in Thailand is discussed. In addition, objectives of the paper, methodology and background of study areas are also described in this section. Section II deals with the survey results and conclusions are presented in Section III.

102. Mead, Donald C., and Richard L. Meyer, "Rural Off-Farm Employment Surveys: Approaches and Methodology," Research Paper No. 3, Center for Applied Economics Research, Kasetsart University, Bangkok, Thailand, May 1981.
File No. 583

This study discusses the approaches and methodology used in surveys conducted under the Rural Off-Farm Employment Assessment Project in Thailand. The paper is divided into four sections. The introductory section presents background, project components and terminology. Section II discusses survey objectives, area selection, survey design and survey results of Phase I of the project. Phase II survey design, objectives, sample selection, questionnaires, etc., are presented in section III. Conclusions of the study are listed in Section IV.

103. Meyer, R. L. Meyer, "Financing Rural Non-Farm Enterprises in Low-Income Countries," Development Digest, Vol. 18, No. 3, July 1980, pp. 92-100.
File No. 655

The author argues that support to non-farm activities has been virtually ignored in rural development programs in most low-income countries. The study summarizes recent research on the rural non-farm sector. The literature suggests that small-scale firms suffer from inadequate availability of institutional credit. The reasons for this are excessive emphasis on farm credit in many countries, heterogeneity in non-farm enterprises, lack of adequate collateral, and operational inefficiency due to many economic and social factors. The study concludes that credit institutions should develop more innovative approaches to adapt their services to the needs of small enterprises.

104. Meyer, R. L., "Formal Credit for Farm and Non-Farm Enterprises in Rural Areas of Thailand," in Proceedings of Workshop on Small Farmers Development and Credit Policy, Agricultural Credit Training Institute, Agricultural Development Bank, Kathmandu, Nepal, June 1981.
File No. 653

This paper describes and analyzes recent developments in rural institutional credit in Thailand. The first section reviews credit activities related largely to farm enterprises, while the second section discusses credit for non-farm enterprises. The reasons why lending for rural non-farm enterprises lagged behind that of farm enterprises are discussed at the end.

The author encourages an increase in the supply of formal credit to rural non-farm rural enterprises. Problems of lending to the small-scale sector need to be analyzed. Such studies should be focused on returns, costs, and risks of lending to small non-farm firms as compared to large firms or compared to farm lending.

105. Meyer, Richard L., and Adelaida Alicbusan, Annotated Bibliography on Rural Off-Farm Employment, Economics and Sociology Occasional Paper 659, Dept. of Agricultural Economics and Rural Sociology, O.S.U., Columbus, Ohio, October 1979.
File No. 572

This bibliography presents the abstracts of a number of studies on off-farm employment both in developing and developed countries. There are about 170 items listed. The studies are arranged in alphabetical order. Most of the included studies were conducted within decade from the date of publication of this bibliography.

106. Meyer, R. L., and A.P. Alicbusan, "Farm Household-Heterogeneity and Rural Financial Markets: The Case of Thailand," Economics and Sociology Occasional Paper No. 938, Department of Agricultural Economics and Rural Sociology, The Ohio State University, Columbus, Ohio, August 1982.
File No. 652

Authors discuss the complexity of financial needs of farm households in Thailand and suggest implications for financial intermediation in rural areas.

The analysis of cash flows of Thai farm households reveal great month-to-month variations in income and expenditure. Households have cash surpluses in some periods and deficits in others. Efforts should be directed to mobilize these savings for use in lending programs.

107. Miller, Barbara D., "Female Labor Participation and Female Seclusion in Rural India: A Regional Review," Economic Development and Cultural Change, Vol. 30, No. 4, July 1982.
File No. 268

The author attempted to test the following hypothesis: If females are important to rural production, they will rarely be subject to the hobbling practice of female seclusion and, conversely, if they are not important to rural production, they may be secluded. Data from the census of India are used in the study.

Comparing Indian ecological/agricultural regions with female labor participation rates produced poor results. A clearer relationship, however, appears to exist between female labor participation rates and regional patterns of female seclusion. The author also listed exceptions to this relationship in various parts

of the country. She concludes that low female labor participation is only a crude predictor of female seclusion and segregation. Culture is another important factor that determines women's participation in marriage and other ceremonies.

108. Ministry of Finance and Planning, Kenya, "Non-Farm Activities in Rural Kenyan Households," Unpublished paper, Nairobi, Kenya, June 1977.
File No. 503

This study focuses on the extent of rural household involvement in non-farm economic activities. The study also analyzes the structure of non-farm employment in rural Kenya and its contribution to total household income.

The results show that at least half of the sampled households were engaged in one or more non-farm activities carried on for a month or longer in the year preceding the survey. The pattern and prevalence of non-farm employment varied from province to province. The non-farm activities also contributed a significant share in total income of rural households. The findings suggest policy measures to improve the productivity and efficiency of rural non-farm sector.

109. Misawa, Takeo, "An Analysis of the Allocation of Laborers in Part-Time Farming," Rural Economic Problems, Vol. 3, No. 1, May 1966.
File No. 610

This study analyzed labor utilization and sources of income of part-time farmers in Japan. The data used were collected from various sources. The results indicate that part-time farms in Japan have increased over time, both in absolute and percentage terms. The number of part-time farm households with employed family members and with salary earners also increased over time. The share of off-farm income in total income of farm household also increased significantly between 1955 and 1959. The off-farm employment participation rate was inversely related to farm size.

110. Moock, Peter R., "The Efficiency of Women as Farm Managers: Kenya", American Journal of Agricultural Economics, Vol. 58, No. 5, December 1976.
File No. 125

This study compares male and female farm managers with respect to the means used to acquire technical information for maize production. The author used econometric methods of analysis in order to achieve the specified objectives. The data used in the study were collected from 152 maize farmers in Vihiga Division in Western Kenya.

The impact of schooling on output, other factors remaining the same, was greater for women than for men. The men who had been to school for just a few years performed worse on the efficiency criterion than those who had never been to school. The impact of extension services on farms managed by men was significantly higher than on women-managed farms. This was mainly due to the marked male orientation of the services provided by Kenya's Ministry of Agriculture.

111. Mueller, Eva, "The Value and Allocation of Time in Rural Botswana," unpublished, Discussion Paper No. 81-44, Population and Human Resource Division, The World Bank, Washington, D.C., November 1981.
File No. 658

This paper is concerned with issues relating to income generation, employment and underemployment, and contribution of women and children to household welfare. The findings of the study are consistent with the hypothesis that time allocation in rural areas is influenced by economic incentives, i.e., income and productivity effects. At the same time there is strong evidence that time allocation is constrained by a culturally determined division of labor by age and sex. In rural Botswana, the marginal productivity of labor in rural self-employment is very low. The time use data shows substantial surplus labor in rural areas.

112. Mukherjee, Ramkrishna, Six Villages of Bengal, Bombay Popular Prakashan, Bombay, India, 1971.
File No. 597

Chapter two discusses manpower and work in selected villages of Bengal State in India. The author finds that the main occupation of the households were agriculture, industry or trade, or a combination of them. Women usually did not work for wages except in extreme poverty cases. However, they helped men in both agricultural and off-farm activities.

For every earning member in the family there were 2-3 dependents. A significant proportion of households were engaged in one or two occupations in addition to cropping. Non-agricultural activities were mainly a secondary source of income of the households.

113. Myrdal, Gunnar, Asian Drama: An Inquiry Into the Poverty of Nations, Vol. II, Pantheon, A Division of Random House, New York, 1968.
File No. 596

Part five of this book discusses problems of labor utilization in Asia. Chapters 22 and 23 analyze various issues related to labor utilization in and outside agriculture. In chapter 25, a case for crafts and small-scale industry is presented. The author finds a strong need to protect and promote craft industries in the villages in South Asia. Measures are needed to improve efficiency of crafts and small-scale industries.

114. Napier, Ted L. and Michael V. Carter, "Correlates of Off-Farm Employment in Ohio," North Central Journal of Agricultural Economics, Vol. 5, No. 1, January 1983, pp. 97-106.
File No. 667

The purpose of this paper is to present the findings of a research study designed to examine off-farm employment of Ohio farmers. Data were collected from a statewide sample of farmers in the spring and summer of 1979.

Selected socio-cultural, ecological and farm structure variables were correlated with the number of days the farmers worked in off-farm employment. Seven variables were shown to be significantly related to the dependent variable. The correlations were consistent with the research expectations. Regression analysis revealed that 5 variables explained about 30 percent of the variance in dependent variable.

115. Niemi, Beth T. and Cynthia Lloyd, "Female Labor Supply in the Context of Inflation," The American Economic Review, Vol. 71, No. 2, May 1981.
File No. 550

This study explores the possible effects of inflation on female labor supply trends in the U.S. The empirical results, covering the period 1956-77, of changes in the labor force participation rates of women in various age groups are presented. Inflation appears to have an effect on labor force participation rates above and beyond the effect it generates through reducing real wages.

By examining the primary sources of female labor force growth in the last decade and their implications for long run labor supply, the authors suggest the likely importance of inflationary expectations in sustaining the long-term growth of female labor supply, particularly in the prime age group.

116. Nihan, Georges, R. Jourdain, and David Dviry, "Informal Sector and Small Scale Enterprises: A Bibliography," Unpublished paper no. WFP2-3DOC.9, International Labor Organization, Geneva, Switzerland, April 1978.
File No. 557

This bibliography contains abstracts of various studies on small scale enterprises in developing countries. The studies are available in the Library of the International Labor Organization. The studies were conducted in countries in Africa, South America, Asia, and the Middle East. Articles of general scope are covered in a separate section.

117. Norman, D. W., "Economic Analysis of Agricultural Production and Labour Utilization Among the Hausa in the North of Nigeria," unpublished paper, Dept. of Agricultural Economics, Michigan State University, East Lansing, MI, January 1973.
File No. 109

This study discusses the availability and use of resources in agriculture in a North Nigeria region. The author also analyzed physical, social and economic determinants of cropping patterns and incomes from farming. A comparison of three villages was made in terms of impacts of accessibility and population density on farm size, inputs use, net farm income, and farm and off-farm labor employment.

Data from 104 farm families were analyzed to assess the rationality of cropping patterns used by farmers. A linear programming model was used to determine if farmers could improve their welfare in terms of profit maximization subject to the security constraint of sufficient food production to meet family needs.

The results showed that a mixed cropping pattern provided higher income and labor employment compared to a single cropping system. The analysis also showed that farmers were generally allocating resources in a manner consistent with profit maximization.

118. Onchan, Tongroj, "Lender Behavior in Financing Rural Non-Farm Enterprises," Conference Paper No. 2, Center for Applied Economics Research, Kasetsart University, Bangkok, Thailand, 1981.
File No. 630

The author attempts to describe the behavior of local commercial banks in financing rural non-farm enterprises. The data were collected from bank personnel through personal interviews.

The study reveals that although the total amount of commercial bank loans in rural areas has increased significantly over time, most loans were short-term. There has also been more emphasis on savings mobilization as compared to advancing loans to rural households. Among the rural industries, the major portion of commercial bank credit goes to agro-industrial units.

The author suggests more emphasis on supplying credit to non-agro-industrial sectors. He also suggests establishment of an industrial loan guarantee program so that part of the lending risk is covered by the government.

119. Onchan, T., P. Charsombut, and R. L. Meyer, "Rural Off-Farm Assessment Project," Research Paper No. 1, Center for Applied Economics Research, Kasetsart University, Bangkok, Thailand, October 1979. File No. 581

This paper presents a general description of the Rural Off-Farm Employment Assessment Project in Thailand. The project was funded by the U.S. Agency for International Development. Data collection and analysis were conducted by Kasetsart, Chiang Mai, Kahn Kaen and other universities in Thailand. The Ohio State University and The Michigan State University provided technical assistance to the project.

The authors discuss background, objectives and components of the project. The area studied and other components of the project are also described. The implementation of the project is also discussed in detail.

120. Onchan, T. and Y. Chalamwong, "Rural Off-farm Employment and Income of Rural Households in Thailand: Some Research Findings," Research Paper No. 4, Center for Applied Economics Research, Kasetsart University, Bangkok, Thailand, October 1981. File No. 584

Using the Rural Off-Farm Employment Assessment Project Survey data, this study finds that off-farm as well as non-farm income of rural households in Thailand contributed significantly to their net family income. The proportion of non-farm income in the total family income, for example, was more than 45 percent in all the study regions in 1975-76. It was also found that the proportion of non-farm income in total family income of rural households decreased with increases in farm size. Also, the low income households were more

dependent upon non-farm income than medium and high income groups. The study reveals that rural households employ a significant amount of their labor resources in off-farm and non-farm enterprises. The authors suggest that rural off-farm employment and income should get increased attention from development planners.

121. O'Neill, June A., "A Time-Series Analysis of Women's Labor Force Participation," The American Economic Review, Vol. 71, No. 2, May 1981.
File No. 560

In this paper, the author first reviews the past cross-sectional studies on women's participation in the labor force. She addresses the question of whether the findings of cross-sectional studies are relevant for understanding labor supply behavior of women over time, particularly during the 1970's a period of unusually slow growth in earnings and rapid growth in women's labor force. She also reports some estimates of her own, using aggregate time series data. She concludes that the female wage rate and male income can explain surprisingly much of the trend over time, although the interaction of the process with divorce and other factors also influence the outcome.

122. Page, John M. "Small Enterprises in African Development: A Survey," Working Paper No. 363, Development Economics Department, The World Bank, Washington, D.C., October 1979.
File No. 636

This study reviews evidence concerning the structure and performance of small-scale enterprises in Africa. Small and artisanal firms, employing between 1 and 50 workers, are the largest employers in the manufacturing sector in Africa. Data from several microeconomic surveys are used to examine the relationship between firm size, choice of technique and technical efficiency. Studies of factor markets indicate that substantial variations exist in relative factor prices faced by different size classes of firms. The survey concludes with a review of the policy environment confronted by small enterprises in several African countries.

123. Parez, B. A., "Women Labour-Force Participation and Incomes in Three Asian Countries," Economic Bulletin for Asia and the Pacific, Vol. 27, No. 1, June 1976. File No. 460A

This study analyzes female labor-force participation patterns and structure, and determinants of such patterns in India, Philippines, and Malaysia. It also discusses the determinants of incomes of female workers.

The evidence indicates that besides a large and growing proportion of women workers, measures related to age, education, urban-rural location, length and quality of experience, size of households, status of attachment to the labor market, etc. could enhance women's current and potential contribution to family income. The author suggest measures to enable female workers to more easily carry on their traditional domestic concerns and at the same time earn employment income. This means creating services for child care, and cheaper goods, such as time saving home appliances.

124. Partadiredja, Ace, "Farm Organization, Technology and Employment," Growth and Equity in Indonesian Agricultural Development by Mubyarto (ed.), The Ministry of Agriculture, Republic of Indonesia, 1982. File No. 663

This is a detailed study of various issues related to rural labor employment in Indonesia. The percentage of population in the labor force in the country increased over time. The rural labor force constituted 84 percent of the total labor force. The male-to-female ratio in the rural labor force in 1971 was approximately 2 to 1. The percentage of labor force in agriculture as well as average productivity of agriculture labor increased between 1961 and 1971.

A high proportion of the rural employed labor force was underemployed. The incidence of underemployment in the rural sector also increased over time. A variety of farm, off-farm and non-farm occupations are performed by rural people. The government has created several programs to alleviate rural unemployment. The author predicts high rates of unemployment and underemployment in rural areas in Indonesia. He proposes several measures to deal with the unemployment problem.

125. Pathare, P. A., M. P. Dhongada and T.K.T. Acharya, "Seasonal Migratory Agricultural Labourers at a Co-operative Sugar Factory in Maharashtra," Summary in Indian Journal of Agricultural Economics, Vol. 27, No. 4, 1972.
File No. 623

This is a study of socio-economic characteristics of 150 families who seasonally migrated to work at the Rahuri Cooperative Sugar Factory in Maharashtra State. Out of 150 families, 145 were cultivators and 5 were landless workers. The majority of the migrants were below 40 years of age and most of them were illiterate. The average size of the migrant families was more than 8 members. The employment opportunities for the families in their native villages were limited. The migrants had low assets and income levels. The average income earned from factory work per family was Rs 2,127, which in the majority of cases was as much as they earned from farming.

126. Patrick, George F. and J. J. de Carvalho Filho, "Low Income Groups in Brazilian Agriculture: A Progress Report", unpublished paper, Dept. of Ag. Econ., Purdue University, Lafayette, Indiana, USA, March 1975.
File No. 252

The objectives of the research project are to increase understanding of the rural poor, their environment, and devise strategies to increase their income and welfare. This report presents background on the project and areas studied, results from the first phase, and directions for further analysis.

The first part focuses on rural poverty in Brazil, the extent to which the rural poor have not benefitted from recent economic boom, and the distribution of income within agriculture. Later sections treat research design, socio-economic characteristics of the rural households, sources and allocation of income, and factors explaining producers' income.

127. Patrick, George F. and Kenneth L. Graber, "Income Generation Among Small Farmer Households in Brazil," The Journal of Developing Areas, Vol. 11, July 1977.
File No. 578

The first section of this article utilizes human capital and agricultural production theory to develop a conceptual model of income generation for Brazilian small farmers. This is followed by a brief discussion of rural poverty in Brazil. The third section presents a description of the regions selected for study and the procedures followed to estimate empirically the conceptual model. In the fourth section, the statistical results obtained from the estimated income generating functions are presented and discussed. The study concludes with some policy implications of the results obtained.

128. Peacock, Frank, "Rural Poverty and Development in West Malaysia (1957-1970)," The Journal of Developing Areas, Vol. 15, July 1981.
File No. 576

Paper examines rural poverty in West Malaysia over the period 1957 to 1970. The author argues that during this period, the country achieved a high rate of growth, however, income inequality and rural poverty increased significantly. The failure to reduce rural poverty resulted from the strategies that sought to resolve the problem of poverty by using modern methods of agriculture to increase the output of rice and rubber, while leaving traditional patterns of peasant agriculture undisturbed. There was a failure to recognize that poverty was the result of these traditional patterns. The author suggests that to reduce rural poverty, faster alienation of land, a shift away from the smallholder cultivation of rice and rubber, and a plan by which a large part of the rural poor can move out of peasant farming altogether, have to be instituted.

129. Plattner, Stuart, "Economic Development and Occupational Change in a Developing Area of Mexico," The Journal of Developing Areas, Vol. 14, July 1980.
File No. 577

This study analyzes the impacts of economic development projects instituted by Mexican government on the economic life of a small community of traditional peddlers in Chiapas highlands. The highlands

are mainly occupied by Mayad Indian peasant farmers. In essence, the author describes how a community which exploited a relatively narrow set of opportunities in a regional economy expanded its response to economic development. This involved a continuation of some old activities (those merchants who are still successfully peddling, the pork and produce vendors, peons and unskilled female producers); a combination of old skills and new technology (those merchants who brought trucks and use them in long-distance wholesale trade); and an expansion of new skills (those ex-peddlers now working as craftsmen or as employed workers).

130. Pongsapich, Amara, Village Khon Kaen: Social and Economic Conditions of a Rural Population in Northeastern Thailand, Social Research Institute, Chulalongkorn University, Bangkok, Thailand, 1976.
File No. 638

This is a study of economic and social life of rural residents of Khon Kaen province in Thailand. Chapters 7 and 8 present analysis of labor utilization and farm family income of 47 farm households.

The author finds that 58 percent of total available time was spent on gainful activities. The distribution of total hours worked showed that, on the average, 21 percent of the working time was spent in off-farm or non-farm enterprises. Similarly, about 25 percent of total income of the households was derived from non-agricultural activities.

131. Presidential Committee on Agricultural Credit, The Farm and the Household: The Microworld of the Farmer, Technical Board for Agricultural Credit, Manila, Republic of the Philippines, 1981.
File No. 635

The objectives of this study are: (a) to examine the level and structure of farm-household assets, debt and net worth and (b) to gain insights into cash flow problems of small farms related to credit use and repayment. The data used in the study were collected from 34 farmers. The study finds that households with more current assets borrowed less compared to those

with more intermediate or fixed assets. Land ownership improved the equity position of farmers. Multiple cropping improved the repayment capacity of farmers.

Loans were mainly used to smooth income troughs over the season. The study recommends speeding up land transfer operations under the agrarian reform program.

132. Priebprom, S., "The Role of Farm, Non-Farm Enterprises and Off-Farm Work in Household Employment and Income Generation on Irrigated and Rainfed Farms, Khon Kaen, Thailand," Research Paper No. 7, Center for Applied Economics Research, Kasetsart University, Bangkok, Thailand, July 1982.
File No. 586

This paper analyzes the nature, extent and composition of farm, non-farm and off-farm activities and their relationships in rural Thailand. The study also identifies the kinds and combinations of income-generating activities in the rural area. The data used were collected under the AID-sponsored Rural Off-Farm Employment Assessment Project. The results of the analysis show that non-farm enterprises or cottage industry generate a significant amount of net income for all farm size classes in rainfed areas. Off-farm work also made a significant contribution to family income of rainfed farm households, especially the small farms. Off-farm employment played a significant role in generating income for farm families in irrigated areas.

133. Priebprom, Somsak, and Warren H. Vincent, "Combining Farm and Non-Farm Employment Opportunities for Improving Income and Employment on Rainfed Farms, Khon Kaen, Thailand," Research Paper No. 8, Center for Applied Economics Research, Kasetsart University, Bangkok, Thailand, August 1982.
File No. 587

Authors present an analytical model representing the rainfed farm household situation in Khon Kaen villages in Thailand. This linear programming model was empirically used to evaluate the effects of alternative non-farm enterprises and off-farm work opportunities, and wage changes on enterprise combinations,

employment and income of the households. Some policies and programs that will stimulate employment and raise household income in rural areas are also suggested.

The findings of the study show that, considering the resource constraints of households, a combination of farm, family industry and off-farm employment could attain maximum annual family net income for the rainfed farm households.

134. Rahman, Rushidan I., "Measurement of Rural Unemployment: A Disaggregative Approach," The Bangladesh Development Studies, Vol. IV, No. 1, Winter 1978.
File No. 607

Study discusses and compares approaches used to measure the extent of agricultural unemployment. Household level data are used to estimate extent of unemployment among family members. Unemployment by occupation, type of workers, income position and season are considered.

The author observed that the average worker was unemployed about 20 percent of the time considering 300 days of work in a year as full employment. Self employed people were more fully employed than wage laborers. About 80 percent of wage laborers and 45 percent of the self employed were below poverty income.

135. Roberts, Kenneth D., "Agrarian Structure and Labor Mobility in Rural Mexico," Population and Development Review, Vol. 8, No. 2, June 1982.
File No. 608

This study examines the economic factors that affect labor allocation of rural landholding households in farm areas of Mexico. The study finds that in all the farm regions, off-farm economic activities contributed significantly to the employment and income of rural households. Low income families derived a relatively higher proportion of their earnings from off the farm compared to high income households.

The author concludes that off-farm labor is not a residual that absorbs part of the difference between household labor supply and farm labor demand. Rather,

households make simultaneous decisions concerning the allocation of farm labor between family and hired labor, and the allocation of household labor between on-farm and off-farm labor.

136. Robinson, Chris, Pat McMahon, and John Quiggin, "Labor Supply and Off-Farm Work by Farmers: Theory and Estimation," Australian Journal of Agricultural Economics, Vol. 26, No. 1, April 1982.
File No. 603

Off-farm employment has become an increasingly important aspect of resource adjustment and a source of income in Australian agriculture. This study investigates off-farm employment. A conceptual model of the allocation of a farmer's labor between farm and off-farm work is developed and applied to cross-sectional data. A Tobit maximum likelihood procedure is utilized to test the influences of life cycle, level of human capital, wealth, non-wage income and farm income on the off-farm labor supply of farmers.

The results of the study suggest farmer's decision to allocate labor between farm and off-farm activities is influenced by his stage of life-cycle, his level of human capital, his wealth and, importantly, the level of income that he could generate on the farm vis-a-vis off the farm.

137. Rosenweig, Mark R., "The Demand for Children in Farm Households," Journal of Political Economy, Vol. 85, No. 1, 1977.
File No. 76.

A multiperiod household model of fertility behavior applicable to a rural agricultural setting is formulated. Both the pecuniary and the psychic returns from children were considered in the model.

The author found that the price of time and income effects differed from those implicated in "consumption" household models and that wage rates of farm laborers, farm technology, and non-farm wages were important determinants of the demand for children in agricultural areas. By using aggregate level U.S. data, he showed that the above variables contributed significantly to changes in farm population birth rates in the United States in the post-war years.

138. Rosenzweig, Mark R., Rural Wages, Labor Supply, and Land Reform: A Theoretical and Empirical Analysis," The American Economic Review, Vol. 68, No. 5, December 1978.
File No. 556

This study presents a general equilibrium model of rural wage determination in India. It also analyzes the effects of a redistribution of land holdings on agricultural wage levels and sex/age wage differentials.

The findings reveal that the impact of a partial land reform on wages would be theoretically indeterminate. However, empirical results using Indian data showed that redistribution of land from large to small farm households would raise agricultural wage levels and thus benefit landless households, although sex differentials in rural wages would appear to widen.

139. Rosenzweig, Mark, R., "New Classical Theory and The Optimizing Peasant: An Econometric Analysis of Market Family Labor Supply in a Developing Country," Quarterly Journal of Economics, Vol. 44, 1980.
File No. 585

In this paper, refutable predictions are derived from a neo-classical multi-person household model based on competitive assumptions modified to take into account differences in landholding status. A national sample survey of rural households from India is used to estimate the parameters of the model for male and female agricultural workers from farm and non-farm households. The estimates generally conform to implications of the neo-classical competitive framework.

Annual number of days of wage employment observed for individuals in rural India is mainly supply rather than demand determined, as implied by competitive models. The estimates also appeared to reject some simple labor surplus models of wage employment. Also, the schooling for both male and female members of land-holding households enhanced agricultural production efficiency and thus tends to reduce the off-farm labor supply of cultivators.

140. Ruddle, Kenneth, and Ray Chesterfield, "Tradional Skill Training and Labor in Rural Societies, The Journal of Developing Areas, Vol. 12, July 1978.
File No. 579

Paper discusses the type and structure of labor employment by age and sex in rural areas in Guara Island. The amount of time spent in teaching different economic activities by the local residents is also discussed. The authors find that 44 percent of total labor input in the studied area was spent on instructional work. These instruction duties are divided among the different members of the family. The findings of the study imply that analysis of labor supply of rural households should take into account the time spent by family members in leading economic activities and other tasks to the children. Similarly, the appropriateness of modern technology for the rural sector should be determined by considering the efforts needed by parents to teach new skills to their children.

141. Ryan, J. G., R. D. Ghodake, and R. Sarin, "Labor Use and Labor Markets in Semi-Arid Tropical Rural Villages of Peninsular India," unpublished paper, ICRISAT, Hyderabad, India, February 1973.
File No. 373

This study examines labor utilization patterns and labor market behavior of laborer and cultivator households in three broad agroclimatic zones in peninsular India.

Prospective crop, land and water management technologies for the studied regions are shown to offer considerable scope for increased employment, particularly on vertisols. The importance of women in the labor force of these villages is shown to slightly dominate that of men, while their employment probabilities and wage rates are generally much less. Segmentation of the male and female labor markets seems apparent and these markets do not appear to be more "competitive" in peak wage periods. There was little evidence that the "dual labor market" hypothesis operates for the male labor force, but there was strong support for it in the case of females.

142. Sanusi, Nanu Achmad, "Rural Household Income and Expenditures in Village B, West Java, Indonesia," Cornell International Agri., Mimeograph 92. Department of Ag. Econ., College of Agriculture and Life Sciences, Cornell University, Ithaca, New York, January 1982. File No. 634

The objectives of this study are: (1) to determine the factors responsible for the level of household income obtained, (2) to measure income received and consumption expenditures, and (3) to consider available sources of income and resulting patterns of consumption expenditures.

The author finds farm size was the key factor determining family income. Agricultural income was more important for large than for small farms. Small farmers derived large amounts of income from non-agricultural sources. About 86 percent of total consumption expenditures was allocated for necessities.

143. Scott, Loren C., L. H. Smith, and B. Rungeling, "Labor Force Participation in Southern Rural Labor Markets", American Journal of Agricultural Economics, Vol. 59, No. 2, May 1977. File No. 529

Employing primary data from interviews conducted in four southern rural counties in the U.S.A., this study investigates the major determinants of labor force participation among six sub-groups in the sample. Evidence from probit analysis indicates the critical role of health in the participation decision of virtually all sub-groups. The expected wage is found to significantly influence the participation decision of secondary, but not primary workers. Manpower policies concerning day-care centers, discrimination, and job training are also investigated.

144. Sethuraman, S.V., "Underemployment in Rural India: Implications for Rural Works Programme," Economic Affairs Div. Staff Paper, USAID/India, New Delhi, India, May 1972. File No. 160

Author examines the concept of underemployment and alternative measures of this concept. It is noted that by taking full employment at the maximum labor productivity prevailing during the year as the "norm or full employment," the extent of underemployment can be estimated indirectly from the observed wage data and relevant supply and demand elasticities.

It was found by analyzing variations in the wage rate in rural India for selected years that there are substantial variations in the extent of underemployment between seasons, years and regions. Further, variations in underemployment are greater for females than males. This study assumes that underemployment can be eliminated effectively by providing employment to whoever wants it at a minimum wage.

145. Singh, I. J., "Small Farmers and the Landless in South Asia," unpublished World Bank Staff Working Paper No. 320, The World Bank, 1818 H Street NW, Washington, D.C., 1979.
File No. 613.

In Chapter IV of this paper, the author discusses non-farm employment of low income rural households in South Asia. He finds a variety of on-farm poultry and dairy enterprises, wage employment and off-farm employment sources of income for the rural poor. Forty-eight percent of total income of rural households in India was earned from these non-crop activities. The proportion of non-crop income in total income of the cultivator households was 28 percent. The contribution of the non-agricultural sector in absorbing rural labor supply was, however, quite low in India, Bangladesh and Pakistan, and it did not increase significantly over time.

146. Singh, I.J., "The Landless Poor in South Asia: What Are Their Prospects?" Paper prepared for the 18th Conference of the International Association of Agricultural Economists, Jakarta, Indonesia, August 2 - September 2, 1982.
File No. 664

In South Asia, 41.5 percent of the rural population is in the labor force. Twenty-eight percent of the work force is engaged in own-farm business, and seventy-two percent are working as wage earners, or helpers, or in non-agricultural sector.

The author concludes that the landless and near-landless numbers in South Asia will continue to grow and with them the numbers of the poor will also continue to increase. The incidence of poverty too may increase in areas where agricultural stagnation persists. In the long run, only reducing the rate of population growth and increasing opportunities in the non-agricultural sector can eradicate poverty. For the short run, he suggests programs such as employment guarantee schemes, irrigation and improvement schemes.

147. Smith, Dwight A., "An Examination of the Off-Farm Labor Supply of Small Farm Household Members: The Case of Laguna, The Philippines," Economics and Sociology Occasional Paper No. 760, Department of Agricultural Economics and Rural Sociology, The Ohio State University, Columbus, Ohio, November 1980.
File No. 654

This study examines the importance of off-farm income as a component of farm household income, and analyzes the economic and social factors which determine off-farm labor supply of small farm husbands and wives. Analysis of variance and multiple regression models are used in the analysis.

The study reveals that, in the study region, either male or female members of small farm households were engaged in off-farm work. Off farm income contributed a significant portion of total household income. The findings encourage the utilization of the new household economics approach to understand the time allocation behavior of rural households.

148. Solow, Robert M., "On Theories of Unemployment," The American Economic Review, Vol. 70, No. 1, March 1980.
File No. 561

This paper is the presidential address delivered at the ninety second meeting of the American Economic Association in 1979. He did an indepth critique of the

various theories of unemployment put forward in economics literature.

Two conclusions from the discussion, one about economics and the other about the economy. The author argues that formulation of objective functions and constraints in economic studies need to be re-evaluated. He also argues that macro policy may work effectively and it may play an important role in reducing unemployment if the labor market is often not in equilibrium, if wages are often sticky, and if the market responds to non-traditional signals.

149. Steele, William F., "Female and Small-Scale Employment Under Modernization in Ghana," Economic Development and Cultural Change, Vol. 30, No. 1, October 1981.
File No. 570

This paper tests the hypothesis that industrialization tends to diminish female employment opportunities in agriculture and traditional small scale production, causing a decrease in female labor force participation in early stages of development. The author, however, finds that this U-shaped model of trends in female labor force participation with development is not adequate to explain Ghana's experience as its economy modernized during the 1960s. Although manufacturing employment did grow more rapidly than agricultural employment, female labor force participation rose instead of falling. The author also suggests that productive absorption of women into the industrial sector depends on expanding demand for products of small-scale enterprises.

150. Sumner, Daniel A., "Wage Functions and Occupational Selection in a Rural Less Developed Country Setting," The Review of Economics and Statistics, Vol. 63, 1981.
File No. 564

This study deals with estimations of the wage function and functions determining the allocation of time among occupations in rural areas. The empirical analysis is based upon a 1974 sample of five villages in Central Guatemala. Econometric analysis is used to estimate the functions.

The findings of the study show that a strong quadratic life cycle pattern of wage rates exists, especially for those who work at non-farm jobs. Schooling is also a significant contributor to higher wages and, again, especially among non-farm jobs. Participation in market work is a function of age and education. More schooling and literacy make non-agricultural market work more likely. The participation was also found to be a positive function of the predicted wage a person might earn.

151. Sumner, Daniel A., "The Off-Farm Labor Supply of Farmers", American Journal of Agricultural Economics, Vol. 64, No. 3, August 1982.
File No. 536

Theoretical and empirical models are developed to examine the off-farm wages, labor force participation and hours of work of farmers. Econometric estimates are made by using data from a 1971 survey of Illinois farmers. Off-farm wages depend on farmer human capital and the local labor market. The major result confirms the sensitivity of off-farm work to economic incentives. A 10% increase in the off-farm wage entails an 11% increase in hours of off-farm work holding farm characteristics constant. Results also indicate the effects of seasonality, risk, and life cycle factors on off-farm work.

152. Thomas, John Woodward, "Works Program in East Pakistan," Development Digest, Vol. VIII, No. 4, October 1969.
File No. 624

The author discusses the employment and wage effects of a Rural Public Works program initiated in Comilla in 1961. The program intended to use idle labor for construction of infrastructure. He finds that the project benefitted the rural economy in many ways. Employment for idle laborers increased their purchasing power. Rice production increased by limiting flood damage. Farmers were enabled to get their crops to market on the newly built roads.

The analysis of costs and benefits of the Works Program Project showed net annual benefits of approximately Rs 387 million. There were also various indirect benefits. The project created 866,000 man-years of employment during the 1962-67 period. Wage rates in the project area were higher than outside the area.

153. Watarabe, B. and Eva Mueller, "A Poverty Profile for Rural Botswana," Discussion Paper No. 81-63, Population and Human Resource Division, The World Bank, Washington, D.C.
File No. 640

The purpose of this article is to describe demographic and economic characteristics of poverty groups in rural areas relevant to policy diagnosis and design. Poverty is measured by relating household income to a "poverty data line". Using data from the Rural Income Distribution Survey, households are divided into 5 groups ranging from those which have less than 50 percent of this standard to those which have 150 percent or more. These groups are compared with respect to education, assets ownership, sources of income, time use, labor productivity, and related dimensions of their economic status. Disparities in income among rural households were found to be closely associated with differences in access to productive assets, educational achievement, and availability of male labor.

154. White, Benjamin, "Population, Involution, and Employment in Rural Java," in Agricultural and Rural Development in Indonesia, edited by Garry E. Hanson, Westview Press, Boulder, Colorado, U.S.A., 1981.
File No. 615

Author discusses issues related to population pressure and employment problems in rural Java. An empirical analysis of labor utilization by the rural households in Kali Loro was conducted. The study reveals that returns to labor were generally low in both farm and non-farm jobs, particularly during slack labor periods when labor supply exceeded the demand. However, the villages were not characterized by low

participation rates. The author suggests that emphasis in rural development programs should be on providing not "much work" but more productive work to those who need it most.

155. Wichaiwatana, W., "Factors Affecting the Supply of Labor for Off-Farm Work in Rural Thailand," Research Paper No. 13, Center for Applied Economics Research, Kasetsart University, Bangkok, Thailand, August 1982. File No. 593.

This paper is written in Thai language. The objective of the study is to examine the factors determining off-farm and non-farm labor supply in the Khon Kaen, Roi-Et, Chiang Mai and Suphom Buri provinces, separately as well as in all the provinces combined.

The results of the linear regression analysis reveal that the supply of off-farm labor by both husband and wife was positively related to off-farm wage rates. An increase in per capita farm profits had a negative impact on off-farm labor supply of rural households. However, the regression coefficient of this variable was statistically significant only in Roi-Et and Chiang Mai models. The provincial level supply of non-farm labor of the households was positively related to their per capita non-farm earnings. The estimated coefficient of unearned income was statistically insignificant but demonstrated negative signs in all the models.

156. Wolfe, Barbara and Robert Hareman, "Time Allocation, Market Work, and Changes in Female Health," paper presented at the ASSA Meetings, New York, N.Y., December, 1982 (Department of Economics, University of Wisconsin-Madison). File No. 650

This study reviews the literature of determinants of women's health and the role of time allocations on changes in health. The authors have then developed a model for analyzing the effect of time allocation on changes in health status.

The findings of the study indicate that time allocations by women have a significant effect on their health status. Both the child-care and housework

demands on women and the dual role of working and having young children appears to be associated with health deterioration. Apart from hours of market work or aggregate time demands, health deterioration is significantly related to the nature of the market work done and its environment and to activities such as cigarette-smoking.

157. Wong, C.P.W., "Rural Industrialization in China," in The Chinese Agricultural Economy, by Randolph Barker, Radha Sinha and Beth Rose (eds.), Westview Press, Boulder, Colorado, USA, 1982, pp. 137-146.
File No. 520

Decentralized production using intermediate technologies has succeeded in achieving more equitable regional distribution of industrial growth and build-up of local machine-building industries. This also provided more employment than the modern large-scale industries.

The author argues that management of local plants in many areas needs to be revamped and improved. There is also an urgent need to speed up the development of rural infrastructure. He feels that the reordering of priorities in China's development policies in the future may lead to a new choice of techniques in rural industries although this will not lead to general abandonment of intermediate technologies.

158. Yu, Terry Y. H., "Farm Family Income Distribution by Region in Taiwan", unpublished paper no. 77-14, Council for Asian Manpower Studies, University of Philippines, Diliman, Quezon City, Philippines, November 1977.
File No. 418

This study attempts: (1) to investigate the distribution of farm family income by agricultural region in Taiwan; (2) to analyze the factors responsible for the dispersion of farm family income distribution; (3) to draw policy implications from the results. Gini coefficients of income distribution for different regions are computed to make income disparity comparisons.

The results show that farm family income consists of agricultural income and non-agricultural income. The shape of non-agricultural income is found to be continuously increasing and is inversely related to farm size. The higher the ratio of non-agricultural income, the lower the degree of farm family income inequality. A large portion of farm family income inequality is attributable to interregional variation of farm family income. The study suggests that programs that increase non-farm employment opportunities in rural areas can contribute to improve income distribution.

AUTHOR AND ORGANIZATION INDEX

The numbers after each listing are item numbers rather than page numbers.

A

Acharya, T.K.T., 125
Akrasanee, Narongchai, 1
Alicbusan, A., 105,106
Amyot, Jacques, 2
Anderson, Dennis, 3,4
Aramrattana, Orasa, 5
Asian Development Bank, 6
Aungsumalin, Saroj, 7,8
Avila, Marcelino, 9
Ayuthaya, A.S.N., 10

B

Badr, M., 11
Bagchi, Deipica, 12
Baker, C.B., 86
Barkat-E-Khuda, 13,14
Bawden, D. lee, 15
Benito, Carlos A., 16
Benjamin, Malcolm, 17
Berry, R. Albert, 18,19
Bertrand, T., 20
Bhatt, V.V., 21
Boomgard, James, 22
Bradley, Aavid, 33
Bruch, Mathias, 23
Bruton, Henry J., 24
Bryant, W. Keith, 25
Burfisher, Mary E., 26,27

C

Carr, Marilyn, 28,
Carter, Michael J., 114
Carvalho Filho, J. J. de, 126
Chalamwong, Yongyuth, 29,30,31,32,120
Chambers, Robert, 33
Chanthongkaew, 5, 34
Charsombut, P., 101,119
Chen, Peter S.J., 44
Chesterfield, Ray, 140
Chinn, Dennis L., 35
Choe, Yang Boo, 36
Choi, D.K., 37
Cloud, Kathleen, 38

D

Daniel, Mark J., 39
Dantwala, M.L., 210
Davey, B.H., 211
Davies, S., 11
Deere, Carmen D., 212
Denti, Ettore, 213
Deyo, Fredric C., 44
Dhongada, M.P., 125
Dissanayake, B.W., 51
Dixon, Ruth B., 45, 46
Dviry, David, 116

E

Edwards, E.O., 47

F

Faaland, Just, 48
F.A.O., 49
Feachem, Richard, 33
Ferreira, Leo D. Rocha, 50
Flores-Moya, P., 66,67
Fredericks, L.J., 51
Fuhs, Fredrich W., 10

G

Geertsen, H.R., 52
Ghodake, R.D., 53,141
Graber, Kenneth L., 127
Guino, Ricardo A., 54
Gunter, L., 55
Gupta, Devendra B., 56

H

Habibul, M.P., 74
Hanoach, Giora, 57
Hansen, Bert, 58
Hanson, James, 59
Hanson, R.J., 60
Hareman, Robert, 156
Harper, Malcolm, 61
Harrar, William S., 15
Hart, Gillian P., 62
Hassan, Z.A., 41
Hathaway, Dale E., 63
Hayami, Yujiro, 64,65,66,67
Heckman, James J., 68
Hiibner, C.W., 52
Ho, Sam P.S., 69
Horenstein, N.R., 26,27
Huffman, Wallace E., 70,71,72,73,93
Huq, A.F., 74
Huq, M. Amveel, 75

I

Institute of Pacific Relations, 76
Islam, Nurul, 77
Islam, Rizwanal, 78

J

Jackson, Dudley, 79
Jain, Netra P., 80
Jitsanguan, Thanwa, 81
Jones, Christine, 82
Jourdain, R., 116

K

Kada, Ryohei, 83,84,85
Kamajou, F., 86
Kawano, Shigeto, 87
Keeley, M.C., 88
Khambata, Farida, 3
Kiatying-Ungsulee O., 89
Kikuchi, M., 65,66,67
Kim, D.Y., 37
Kimm, Daemo, 90
Kniesner, Thomas J., 91
Krongkaew, Medhi, 92

L

Lange, Mark D., 73,93
Ledesma, Antonio J., 94
Lee, W.F., 41
Leiserson, Mark W., 4
Lewis, John P., 95
Lloyd, Cynthia, 115
Longhurst, R., 33
Lora, Jeannette M., 96
Lucas, Robert E.B., 97,98

M

MaCurdy, Thomas E., 99
Maligalig-Bambo, L., 66,67
McMahon, Pat, 136
McPherson, W.W., 50
Mead, Donald C., 100,101,102
Menegay, Merle, 22
Meyer, Richard L., 31,32,102,103,104,105,106,119
Miller, Barbara D., 107
Ministry of Finance and Planning, Kenya, 108
Misawa, Takeo, 109
Moock, Peter R., 110
Mostafa, A., 11
Mueller, Eva, 111,153
Mukherjee, R., 112
Myrdal, Gunner, 113

N

Napier, Ted L., 114
Niemi, Beth T., 115
Nihan, Georges, 116
Norman, D.W., 117

O

Onchan, Tongroj, 118,119,120
O'Neill, June A., 121
Overholt, C., 38

P

Page, John M., 122
Parez, B.A., 123
Parkinson, J.R., 48
Partadiredja, Ace, 124
Pathare, P.A., 125
Patrick, George F., 126,127
Peacock, Frank, 128
Plattner, Stuart, 129
Pongsapich, Amara, 130
Presidential Committee on Agricultural Credit, 131
Priebprom, Somsak, 132,133

Q

Quiggin, John, 136

R

Rahman, R.I., 78,134
Roberts, Kenneth D., 135
Robins, P.K., 88
Robinson, Chris, 136
Rosenzweig, Mark R., 137,138,139
Ruddle, Kenneth, 140
Rungeling, B., 143
Ryan, J.G., 53,141

S

Sabot, R.H., 19
Saidi, A., 11
Sanusi, Nanu A., 142
Sarin, R., 53,141
Scott, Loren C., 143
Seale, J., 11
Sethuraman, S.V., 144
Sheikh, N.E., 11
Siegelman, R.G., 88
Singh, I.J., 145,146
Smith, Dwight A., 147
Smith, L.H., 143
Solow, Robert M., 148
Soon, Tan T., 61

Soonthornpasuch, S., 10
Squire, L., 20
Steele, William F., 149
Sumner, Daniel A., 150,151

T

Thomas, John Woodward, 152
Turner, H.A., 79

V

Vandeman, A., 55
Vincent, W.H., 8,133

W

Waldo, Arley D., 63
Watarabe, B., 153
Wells, R.J.B., 51
White, Benjamin, 154
Wichaiwatana, W., 155
Wolfe, Barbara, 156
Wong, C.P.W., 157

Y

Yu, Terry Y.H., 158

GEOGRAPHIC INDEX

The numbers in this index are item numbers rather than page numbers.

| <u>Geographical Area</u> | <u>Item Number</u> |
|-----------------------------------|---|
| DEVELOPING COUNTRIES - General | 4,19,24,26,33,47,61, 95,103,116 |
| AFRICA | |
| General | 28,122 |
| Botswana | 97,98,111,153 |
| Cameroon | 82,86 |
| Egypt | 11,58,59 |
| Ghana | 149 |
| Kenya | 17,108,110 |
| Morocco | 79 |
| Nigeria | 27,117 |
| ASIA | |
| General | 6,80,113,123 |
| EAST ASIA | |
| China | 49,76,157 |
| Indonesia | 62,124,142,154 |
| Japan | 83,84,87,109 |
| Korea | 36,37,69,90 |
| Malaysia | 23,118 |
| Philippines | 3,51,54,64,65,66,67,94,131,147 |
| Taiwan | 35,69,158 |
| Thailand | 1,2,5,8,10,20,29,30,31,32,34, 81,102,104,89,92,100,101,106, 118,119,120,130,132,133,155 |
| NEAR EAST | |
| Pakistan | 152 |
| SOUTH ASIA | |
| General | 46,145,146 |
| Bangladesh | 13,14,45,48,74,75,77,78,134,152 |
| India | 12,21,40,45,53,56,80,107,112, 125,138,139,141,144 |
| Singapore | 44 |
| LATIN AMERICA | |
| General | 9 |
| Bolivia | 96 |
| Brazil | 50,126,127 |
| Colombia | 18 |
| Guatemala | 150 |
| Mexico | 16,129,135 |
| Peru | 42 |

| <u>Geographical Area</u> | <u>Item Number</u> |
|--------------------------|--|
| NORTH AMERICA | |
| Canada | 41 |
| United States | 15,25,52,55,60,63,68,70,71,72, 73,83,84,88,91,93,99,114,115, 121,137,143,151,156 |
| AUSTRALIA | |
| Australia | 136 |
| OTHER | |
| Pacific | 140 |
| Worldwide | 7,22,38,39,43,57,85,105,148 |

52. Geertsen, H. R. and C. W. Hiibner, "The Changing Profits of Farmers and Farming in Utah," Utah Science, Agricultural Experimental Station, Vol. 38, Number 1, March 1977.
File No. 63

Off-farm employment by farm operators is becoming a common trend in U.S. and Utah (64% - Utah; 54.3% US). The vast majority of them work more than 100 days off the farm. This is in spite of an increase in average farm size over the past 40 years. The authors also note that the greatest share of those who work off the farm are young (under 45 years).

Possible explanations cited are that workers can accomplish more during non-standard hours (combination of ingenious machinery, improved illumination systems and daylight savings time); improved highway systems, and desire to get work experience before migrating to cities. Farmers view farming as voluntary, a healthy hobby which provides a good place for children to grow up.

53. Ghodake, R. D., J. G. Ryan and R. Sarin, Human Labor Use in Existing and Prospective Technologies of the Semi-Arid Tropics of Peninsular India, Village Level Studies Series 1.3, ICRISAT, Hyderabad, India, December 1978.
File No. 372

This study analyzes the labor utilization data collected from six villages representing three agro-climatic zones in India. The data are arranged by region and farm size to look into the sex, age and type compositions of human labor used at the rural household level in the sampled villages. The study also analyzed the patterns of labor utilization and seasonality in labor employment in the study areas.

The major findings suggest that provision of adequate irrigation facilities will create tremendous employment opportunities. Besides irrigation, distribution of rainfall, extent of rainy and post-rainy season cropping, cropping patterns, extent of mixed cropping and quality of irrigation are other factors affecting the intensity of labor use. The amount of hired labor was directly related to farm size. The use of family labor per hectare, however, decreased with